

BIGHORN NATIONAL FOREST

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Land and Resource Management Plan - **DEIS**

## Appendix C

# Roadless Area Management

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## Introduction

The purpose of this appendix is to describe roadless areas and the analysis factors used in evaluating individual roadless areas on the Bighorn National Forest. It includes a summary of each area's physical and biological attributes, resource uses, recreation opportunities, unique environmental features, and present management situation.

## Background

### Roadless Area Review and Evaluation

In 1970, the Forest Service studied all roadless and undeveloped areas in the National Forest System greater than 5,000 acres for the purpose of prioritizing areas with strong wilderness characteristics for further study. This study, known as the Roadless Area Review and Evaluation (RARE), was halted after a legal challenge.

In 1977, the Forest Service embarked on another nationwide Roadless Area Review and Evaluation (RARE II) to identify roadless and undeveloped areas that were suitable for inclusion in the National Wilderness Preservation System. RARE II resulted in roadless areas recommended for wilderness and proposed to Congress for legislative action. Areas not recommended for wilderness became available for multiple use activities other than wilderness. Approximately 689,770 acres or 62 percent of the Bighorn National Forest was classified as roadless in 1979 as part of the nation-wide RARE II process.

RARE II was also challenged in court on the basis of failure to fully comply with National Environmental Policy Act (NEPA) requirements.

In the late 1970's, the Bighorn began the development of a land and resource management plan for the Forest, which included an evaluation of roadless areas. Volume II-Appendix M of the Draft Environmental Impact Statement for the Forest Plan containing roadless area information was completed and released to the public on August 8, 1984.

Congress passed the Wyoming Wilderness Act of October 30, 1984 (P.L. 98-550), designating the 189,039-acre Cloud Peak Wilderness. The Cloud Peak Wilderness included the Cloud Peak Primitive Area, the Seven Brothers RARE II area and some additional acreage contiguous with the primitive area. The Act also released all remaining (non-wilderness) RARE II areas for multiple use management.

The Final Environmental Impact Statement and Forest Plan were completed and released with a Record of Decision dated October 4, 1985. The Wyoming Wilderness Act was recognized in the final Forest Plan and all roadless areas outside of Cloud Peak Wilderness were allocated for non-wilderness management areas. Of the 623,014 roadless acres allocated for multiple use, about 587,000 acres were included in management areas allowing road construction and reconstruction, and about 34,000 acres were included in management areas that did not allow road construction and reconstruction. No areas were recommended for wilderness designation under the 1985 plan.

In 2000, the Bighorn National Forest began the process of revising its 1985 Forest Plan. For the Forest Plan revision process, a new and more complete inventory was required to evaluate roadless areas and their wilderness potential. In 2003, a new roadless inventory was conducted and this Appendix describes the results of the inventory and wilderness evaluation.

## Criteria

Forest Service Handbook (FSH) 1909.12 established the inventory criteria for roadless areas and their evaluation for wilderness. The handbook specifies that roadless areas be evaluated on the basis of the area's capability for wilderness designation, availability for wilderness designation, and the need for wilderness designation.

### Wilderness Capability

Capability is the degree to which the area contains the basic characteristics that make it suitable for wilderness designation, without regard to its availability. Rating characteristics were developed from FSH 1909.12, Chapter 7.

Areas were rated relative to the following criteria:

- ♦ Solitude
- ♦ Naturalness
- ♦ Challenge
- ♦ Primitive recreation opportunity
- ♦ Environmental and special features
- ♦ Manageability

### Availability for Wilderness

Only those areas determined to be capable for wilderness are considered for their availability for wilderness (FSH 1909.12, 7.22).

Availability is determined by considering the value of and need for the wilderness resource compared to the value of and need for other resources. To be available for wilderness, the values of the wilderness resource, both tangible and intangible, should offset the value of resources that formal wilderness designation would forego.



The following table lists all the Roadless Areas and displays their capability and availability.

Table C-1. Roadless areas on the Bighorn National Forest.

	Area Number	Area Name	Acres	Capability	Availability
1.	BH020	Little Bighorn	67,149	Capable	Available
2.	BH021	Devil's Canyon	12,476	Capable	Available
3.	BH023	Walker Prairie	46,559	Capable	Available
4.	BH025	Hideout Creek	8,559	Not Capable	Not Available
5.	BH026	Bear Rocks	19,501	Not Capable	Not Available
6.	BH029	Piney Creek	20,933	Capable	Not Available
7.	BH030	Little Goose East	15,521	Capable	Not Available
8.	BH031	Cld Pk Contig North	16,564	Capable	Not Available
9.	BH032	Rock Creek	42,377	Capable	Available
10.	BH033	Grommund Creek	5,068	Capable	Not Available
11.	BH036	Hazeltown Pks	7,230	Not Capable	Not Available
12.	BH040	Little Goose West	3,154	Capable	Not Available
13.	BH041	Cld Pk Contig West	28,345	Capable	Not Available
14.	BH042	Medicine Ldg	5,997	Capable	Available
15.	BH043	Tongue River	12,424	Capable	Not Available
16.	BH044	Lodge Grass	10,045	Capable	Available
17.	BH045	Cookstove Basin	6,655	Capable	Not Available
18.	BH046	Pete's Hole	19,065	Capable	Available
19.	BH047	Cedar Creek	11,115	Capable	Available
20.	BH048	Cld Pk Contig South	18,734	Not Capable	Not Available
	Total Acres		377,471		

Source: GIS (ArcInfo), roadless area inventory

## Need for Wilderness

Roadless areas determined to be both capable and available for wilderness are evaluated for the need for wilderness.

For an area to be recommended for inclusion in the National Wilderness Preservation System there should be clear evidence of current or future public need for additional designated wilderness. To determine need, we considered the following factors:

**The location, size, and type of other wildernesses in the general vicinity and their distance from the proposed area.**

- ◆ **Nearby wilderness:** The Bighorn National Forest manages one wilderness area, the Cloud Peak Wilderness, with a total of 189,039 acres. There are 20 designated wilderness areas with a total of 4.2 million acres within 250 miles of the Cloud Peak Wilderness.<sup>1</sup>

**Present visitor pressure on other wilderness areas, trends in use, population changes, and travel patterns.**

- ◆ From 1994-2002, wilderness use in the Cloud Peak Wilderness has remained relatively constant during the nine-year period. Table C-2 displays annual figures based on (mandatory) visitor registration.

Table C-2. Cloud Peak Wilderness use measured in Recreation Visitor Days (RVDs).

<b>Year</b>	<b>Bighorn National Forest –Cloud Peak Wilderness RVDs (thousand)</b>
1994	7.7
1995	5.5
1996	6.7
1997	5.4
1998	6.1
1999	6.5
2000	7.1
2001	7.0
2002	6.3

**The extent that non-wilderness lands can provide opportunities for unconfined outdoor recreation experiences.**

- ◆ **Nearby Non-wilderness Opportunities for Unconfined Recreation Experiences:** There are several management prescriptions that emphasize unconfined, non-motorized recreation experiences. They are 1.11, 1.13, 1.2, 1.31, 1.32, 1.33, 1.5, and 2.2.

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<sup>1</sup> FSH 1909.12 7.23b Land and Resource Management Planning Handbook, Need Factors

**The ability of certain biotic species to compete with increasing human development.**

- ♦ Some species may be more strongly associated with wilderness areas as they may benefit from reduced human disturbance and the higher level of natural processes that shape vegetation patterns typically found in the wilderness. For other species, the limitations on habitat manipulation that results from wilderness designation may be detrimental in some contexts. For example, in low elevation winter ranges or in areas dominated by large expanses of stagnant lodgepole pine, prescribed burning may be used to create a mosaic of age classes of vegetation. While prescribed burns are possible in wilderness, the complexity of analysis and the justification make it less likely that these activities will be implemented. Approved wildland fire plans could allow some natural ignitions to accomplish resource benefits over time.

The evaluation factors for this assessment are listed in the Forest Service Handbook (FSH) 1909.12, 7.23b. The evaluation factors used for this assessment are as follows, and are applied to those areas found both capable and available for wilderness designation:

- ✧ The ability of certain biotic species to compete with increased public use and developmental projects that affect their habitats. Consider means available, other than wilderness designation for meeting this need.
- ✧ The need to provide a sanctuary for those biotic species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific values or phenomena.

Two levels of assessment are appropriate for this purpose. One level is at the species-specific level, and the other at the ecological community level. These two levels match the process for which viability will be assessed for the overall plan revision. For the species-specific approach, a database inquiry of the known rare species listed in the Wyoming Natural Diversity Database was made. No species were detected that could not compete with increasing public use and developmental projects that affect their habitats. Species habitat needs could be met through management emphasis or prescriptions other than wilderness, as demonstrated by species' occurrences outside of existing wilderness or similarly protected areas. The habitat for species occurs regardless of management designation, and there are not currently any projected levels of commodity output or other development on the Forest that would permanently remove habitat for any of these species. Increases in public use of the Forest are anticipated, particularly in the recreation realm, however this increase is likely to occur in both wilderness and non-wilderness areas.

The loss of wolves, grizzly, and the lynx from the Forest would be the most useful consideration of specific species, since these are currently the only likely extirpated species. With regard to the grizzly, no analysis is necessary, as the species will not be managed on the Bighorn National Forest, as stated in the Bear Management Plan completed by the Wyoming Game and Fish Department in 2002. With regard to

wolves, they are a generalist species that utilize habitats in many areas outside of existing wilderness. It is anticipated that wolves will reestablish on the Bighorns in the next decade or two, however, they are not known to require wilderness and their most significant mortality factor is shooting. Studies have not been conclusive on the reasons for lynx decline, but it is believed to be linked to shooting, trapping, competition from other predators, and habitat issues associated with prey. This species also persists outside of wilderness areas on other national forests, indicating some level of adaptability. The common mortality factor for these three species is the movement barrier created by developed highways and the associated motor vehicle mortality. There are no plans for additional highways on the Bighorns within the next planning period that wilderness designation would preclude.

The wolverine and marten could also be considered. Alpine tundra typically found in most wilderness areas may more closely match their habitat in northern latitudes, where they are tied to migrating caribou herds. Wilderness has not been shown to be necessary for the wolverine's habitat, but there are associations with less human interaction for the species. Wolverines have been sighted on the Forest; in areas surrounding the Forest; in the Cloud Peak Wilderness; and, on the plains, indicating their ability or preference for long-range movements. The marten persists outside of wilderness throughout its range, and is associated with the habitat structure of mature timber, particularly near riparian areas.

Finally, species that may be significant genetically to the Bighorn were considered. These would include the pika, snowshoe hare, water vole, red-backed vole, and the marten. There are likely many other species possible in this category due to the island geography of the Bighorns. None of these species are known to be associated only with wilderness areas or the additional management restrictions associated with them. Management through designations other than wilderness, and appropriate standards and guidelines, are capable of ensuring management for these species. For other specific species considered, refer to the Species Emphasis Categories document prepared as part of the Analysis of the Management Situation document.

For the ecological community level of analysis, the wilderness capability assessments already addressed the inclusion of any biological sites listed in the Wyoming Natural Diversity Database's (WYNDD) Fine Filter Assessment prepared for the Bighorn National Forest (Welp et al, 2000). There was further evaluation of any rare or intact ecological communities conducted in the Research Natural Area evaluations. RNAs can be managed as such, and are not dependent on wilderness designation for management. Similarly, biological sites identified by WYNDD are also not dependent on wilderness designation, as other management prescriptions can provide adequate protection with management standards and guidelines.

Based on the two evaluation criteria stated above, none of the wildlife species or the ecological systems on the Bighorn require wilderness to provide necessary habitat or protection. This is evidenced by species' occurrences outside of existing wilderness areas, through the ability of standards and guidelines or management emphasis to

provide protection, and through the lack of reasonable foreseeable developmental threat on the Forest that could impact the species.

In the case of rare plants, wilderness designation does not provide a higher level of protection for rare plant species than other management prescriptions afford. There are no species identified on the Bighorn for which non-motorized management provides additional viability assurance.

**The area's ability to protect certain landform types and ecosystems.**

- ◆ Based on analysis done at the Regional level, certain cover types have been identified as having only limited representation in the Rocky Mountain Region's wilderness system. The spruce/fir and alpine (grass/forb) cover types are the most represented vegetation type in the Rocky Mountain Region. These cover types and their acreages in the Cloud Peak Wilderness are listed in the following table.

Table C-3. Cover types with limited representation in the Rocky Mountain Region wilderness system.

Cover Type	Acres in Cloud Peak Wilderness	Acres in Capable/Available Bighorn Roadless Areas
Ponderosa pine		8,248
Douglas fir	23	55,149
Lodgepole pine	26,736	60,881
Big sagebrush	177	6,739
Pinyon-juniper		1,377
Aspen	404	2,732
Grass types	14,062	10,702
Limber pine		7,822
Cottonwood/willow		98

**Public support/opposition for wilderness recommendation.**

- ◆ A number of conservation groups have expressed support for roadless area conservation and wilderness recommendation. The Citizen's Conservation Alternative, a diverse working group of environmental organizations, supports wilderness recommendation for Little Bighorn, Devil's Canyon, Rock Creek, and Walker Prairie Roadless Areas (and several others). The HF Bar Ranch, a privately-owned guest ranch located adjacent to the Forest, strongly advocates wilderness recommendation for the Rock Creek Roadless Area.
- ◆ In conjunction with Forest Plan revision, the University of Wyoming conducted a social assessment, which included a survey of 1,250 randomly selected residents of a four county area (Blevins, Audie and Jensen, Katherine, 2002, Social Assessment of a Four County Area, University of Wyoming unpublished report). When asked to choose from a list of 14 "future desired conditions", the condition that received the least support was "set aside more land for wilderness".

## Environmental Effects

The following table shows how the total Roadless Area acreage on the Bighorn National Forest is allocated. The acreage shown for each alternative is derived from the forest plan revision, which allocated the total roadless inventory to the management area prescriptions through a range of alternatives.

Table C-4. Management area prescriptions by alternative for all roadless areas.

<b>Mgmt Rx</b>	<b>Alt A Acres</b>	<b>Alt B Acres</b>	<b>Alt C Acres</b>	<b>Alt D Acres</b>	<b>Alt E Acres</b>
1.2			115,157		
1.31		33,491		24,461	7,080
1.32	49,681	40,564	64,825	34,976	22,770
1.33	14,812	28,767	34,250	5,371	12,720
1.5	10,757	20,332	20,916	10,113	10,271
2.1		8,232	4,455		
2.2	1,050	19,102	19,100	19,102	1,050
3.1		6,800	6,800	6,800	6,800
3.24	63				
3.31	5,760	43,160	72,290	45,990	1,212
3.4	13,374	2,296	1,822	487	468
3.5	94,872	120,369	8,921	71,571	
4.2	1,590	8,793	7,134	14,573	4,145
4.3		5,942	568	11,567	1,139
4.4		7,365	7,365	63	
5.11	42,001	6,564	3,644	57,122	52,381
5.12	75,597	11,804	2,050	58,687	
5.13	46,742	309		2,066	32,902
5.13.1					
5.21	2,009				
5.4					188,945
5.41	19,132	13,581	8,174	14,522	17,674
5.5					17,914
8.1	31				
Total Acres	377,471	377,471	377,471	377,471	377,471

Source: GIS (ARC/Info), roadless inventory and management area prescription layers

The management area allocation can be grouped into two broad categories: those allocations allowing activities which could compromise roadless characteristics and allocations which generally retain roadless characteristics. These groupings were developed from the desired condition statements, standards and guidelines, and overall management emphasis for each management area allocation.

The following table shows these two groups of allocations. The management area allocations themselves will not directly affect the character of these roadless areas until a planned management activity (e.g., road construction, vegetative treatment) is scheduled. The type and amount of management activities in the future are uncertain, but the management area direction allows activities that are not consistent with roadless characteristics. Management activities that change the unroaded character of these areas would require an Environmental Impact Statement (EIS) and Record of Decision memo (ROD) before any action is implemented.

Table C-5. Roadless area allocations.

<b>Allocations Retaining Roadless Characteristics</b>	<b>Allocations Not Retaining Roadless Characteristics</b>
1.11 Pristine Wilderness	3.24 Riparian Areas
1.13 Semi-Primitive Wilderness	3.31 Backcountry Recreation-Motorized
1.2 Recommended for Wilderness	3.4 National River System-Scenic Rivers
1.31 Backcountry Rec Nonmotorized	3.5 Plant and Wildlife Habitat Management
1.32 Backcountry Rec Nonmotorized Summer; Limited Winter Motorized	4.2 Scenery
1.33 Backcountry Rec; Limited Summer and Winter Motorized Use	4.3 Dispersed Recreation
1.5 National River System-Wild Rivers	4.4 National River System- Recreation Rivers
2.1 Special Interest Areas	5.11 Forest Vegetation Emphasis
2.2 Research Natural Areas	5.12 Rangeland Vegetation Emphasis
3.1 Special Interest Areas –Medicine Wheel	5.13 Forest Products
	5.21 Water Yield
	5.41 Deer and Elk Winter Range
	8.1 Water Impoundments
	8.22 Ski-based Resorts

The following tables summarize the roadless area acreage for each alternative for these two groups. The percentage is based on total roadless area acres. Parts of the forest not included in the roadless areas are not included in calculating acres or percents.

## ROADLESS AREA MANAGEMENT

Table C-6. Total Roadless Area acres.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres retaining roadless characteristics	76,301 (20%)	150,489 (40%)	258,703 (69%)	94,031 (25%)	53,892 (14%)
Acres not retaining roadless characteristics	301,170	226,982	118,768	283,440	323,579
Total Acres	377,471	377,471	377,471	377,471	377,471

Table C-7. Capable/Available Roadless Area acres.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres retaining roadless characteristics	55,728 (26%)	105,811 (49%)	192,323 (90%)	74,982 (35%)	41,212 (19%)
Acres not retaining roadless characteristics	159,055	108,972	22,460	139,801	173,571
Total Acres	214,783	214,783	214,783	214,783	214,783

It may be possible to mitigate the loss of roadless characteristics with some management prescriptions. The applicability and practicality of mitigation measures depends on site-specific information and analysis. Possible mitigation measures for timber harvest allocations include road closure and obliteration, modified silvicultural prescriptions, emulating natural patterns and shapes in harvest unit design, and modified logging methods. The social, economic, and environmental effects of and on various resources associated with management area prescriptions are disclosed in the FEIS.

## Individual Roadless Area Summaries

The following summaries include information on the wilderness evaluation criteria for each individual roadless area. Detailed maps of the individual roadless areas are in the map packet.



## Roadless Area BH020 – Little Bighorn

---

<b>Acres</b>	67,149
<b>Ranger District</b>	Tongue and Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02020 Little Bighorn Roadless Area (134,760 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located in the extreme northeast corner of the Bighorn National Forest. Motorized access is provided by US Highways 14 and 14A, the Burgess Road (FR 532), Fool Creek Basin Road (FR 528), and the Sheep Mountain Road (FR 500). Numerous trails access the area including Bull Elk Park Trail (FT 076), Pumpkin Creek Trail (FT 146), Little Horn Trail (FT 050), and Dry Fork Ridge Trail (FT 004).
<b>Surroundings</b>	The Wyoming-Montana state line forms the north boundary, the Forest boundary runs along much of the eastern edge of the unit, and the south and west boundaries follow roads, timber harvests, and other non-compatible uses. The Crow Indian Reservation is located north of the area in Montana, and the state of Wyoming administers Kerns Big Game Winter Range along the northeast boundary of the unit.
<b>Physical and biological description</b>	<p>Elevations range from 4,600 feet where the Little Bighorn River exits the National Forest, to 9,951 feet atop Boyd Ridge. The terrain and topography within and adjacent to the Little Bighorn River and its tributaries is varied. Sheer canyon walls rise to approximately 1,000 feet along the river banks. The terrain along the river corridor becomes gentler, and the lower cliffs are interspersed with small river gorges upstream of the confluence of Wagon Box Creek and the Little Bighorn River. The topography of the Dry Fork portion of the area is similar to that of the Little Bighorn Canyon, but is broader with wide, flat benches below steep canyon walls to the east, and steep timbered slopes to the west. The unit is predominantly montane, with large areas of Douglas fir-mountain ninebark mixed with limber pine and lodgepole, and Engelmann spruce-subalpine fir stands on north aspects in the higher elevations. Open parks of sagebrush, Idaho fescue and bluebunch wheatgrass are scattered throughout the unit. The area receives between 22 and 33 inches of precipitation per year that falls mainly as snow between October and April.</p> <p>Landtype associations are predominantly sedimentary breaklands and mountain slopes, with some sedimentary and colluvial landslide deposits derived from interbedded shale and limestone. Soils are shallow to moderately deep, well-drained, and formed in residuum or colluvium derived from limestone. Soil erodibility ranges from low to high and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other factors that limit development and revegetation include the high rock fragment content and droughtiness of the soils, and steep slopes.</p>

## ROADLESS AREA MANAGEMENT

### Features

Dominant features in this unit are the rugged and scenic canyon country of Little Bighorn Canyon and Dry Fork. Numerous trails are distributed throughout the area and primitive recreation opportunities abound. The Little Bighorn River and Dry Fork offer excellent fishing. A Wild and Scenic River recommendation for approximately 19 miles of the Little Bighorn River was submitted in 1990, however Congress has not acted on this recommendation.

### Resources Uses

#### Vegetation

The vegetation is predominantly forested and is comprised of 38% Douglas fir, 22% spruce-fir, 8% limber pine, 5% lodgepole pine, and 4% ponderosa pine. Stage II inventory has been done in forested areas along the eastern boundary of the unit. Areas that were burned in the Pumpkin Creek fire (1970) have been planted and seeded with Engelmann spruce to supplement natural regeneration in the burned areas.

Several species of sensitive plants including Cary beardtongue (*Penstemon caryi*), Howard forget-me-not (*Eritrichum howardii*), and large yellow lady's slipper (*Cypripedium calceolus* var *pubescens*) are located in the area. Several of these sensitive species populations are located in three of the Forest's "biological areas" known as Mann Creek, Boyd Ridge, and Dry Fork. These areas have been designated by the WYNDD for their important concentrations of rare taxa and representative vegetation communities.

Exotic species are common in the riparian zones and mesic shrublands, and along trails in the area. Cheatgrass, Kentucky bluegrass, meadow timothy, smooth brome, and Canada thistle are some of the exotic plants found here.

The Bull Elk Park Research Natural Area is located within the unit and features a disjunct region of Palouse Prairie Climax – *Agropyron-Festuca* association.

#### Recreation

The majority of recreational use is light and involves hiking, horseback riding, fishing, and hunting activities. The Little Horn Trail (FT 050) and Dry Fork Ridge Trail (FT 004) are popular routes for hikers and backpackers who want to experience the remote and scenic canyon environment of the Bighorns. The upper end of FT 050 is open to motorized use, however, the rough terrain along portions of the trail limits the practical use of ATVs and motorcycles. Pumpkin Creek Trail (FT 146) is authorized for motorized use, but is also limited by terrain and not utilized for ATV travel. The Boyd Ridge Trail (FT 096) is used by ATVs to travel from Boyd Ridge Road (FR 110) to its intersection with the Little Horn Trail (FT 050).

Big game hunting pressure in the fall is moderate to heavy near primary access roads such as Boyd Ridge, Dry Fork, and Freeze Out Cow Camp, but decreases as one moves away from roads and into the remote interior. There are no groomed snowmobile or cross-country ski trails in the area. There are numerous special use permits authorized for summer recreation and fall hunting. One permit holder conducts a guided cattle drive when livestock are turned on to the allotment for the grazing season. Three recreation residence permits are authorized near the Forest boundary on the Little Bighorn River. Other special uses include the Bighorn Wild and Scenic Run- a competitive trail run that includes the Little Horn (FT 050) and Dry Fork (FT 004) trails. The annual 2-day event takes place in June and features 30 kilometer, 50 kilometer, 50 mile, and 100 mile events that traverse other roads and trails on the Forest. The ROS rating includes a majority of Semi-primitive Non-motorized areas, with some Primitive recreation also.

#### Wildlife

Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The river corridors provide important habitat for many terrestrial and aquatic wildlife species. The riparian areas serve as feeding and nesting sites for birds and canyon walls offer potential nesting habitat for peregrine falcons. The area provides spring calving, summer, fall, and critical winter habitat for elk and deer, and is used as a migratory route into the adjoining Kerns Big Game Winter Range (State of Wyoming unit). A variety of trout are found in the Little Bighorn and Dry Fork rivers including rainbow trout, brook trout, and Yellowstone cutthroat trout. The Little Bighorn River is located within the Yellowstone River basin and part of the historic range for the Yellowstone cutthroat. Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), a Forest sensitive species, have been sampled in Mann Creek and subsequent DNA testing revealed the sample to be genetically pure.

The water vole (*Microtus richardsoni*), another Forest sensitive species, has been trapped along Duncum Creek. The western portion of this roadless area falls within two lynx habitat units – Porcupine/Mann Creek and Little Bighorn/Dry Fork. The Canada lynx (*Lynx canadensis*) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.

#### Range

Numerous active cattle and horse allotments are established in the area. They include Red Springs, Sage Basin, Little Horn, Lake Creek, Lower Dry Fork, Dry Fork Ridge, Pass Creek, West Pass, Medicine Mountain, and Fisher Mountain. Many of the pastures are operated under a deferred rotation grazing system and typical range improvements such as fences, water developments, and cow camps are located throughout the area. Freeze Out Stock Trail (FT 008), also known as Smith Creek Stock Driveway, is located outside the east boundary of the area. West Pass Stock Driveway (FT 428), enters the Forest south of Kerns Big Game Winter Range and terminates at the West Pass corrals and cow camp.

#### Water

The area is located within the West Fork of Little Bighorn, Little Bighorn near Duncum, Dry Fork of Little Bighorn, East and West Pass Creek, and Tongue River at Dayton watersheds. Major streams in the area are the Little Bighorn River, Dry Fork, Mann Creek, and Pumpkin Creek. Streams are in a natural free-flowing state and are not located within a municipal watershed. A Wild and

## ROADLESS AREA MANAGEMENT

Scenic River recommendation for approximately 19 miles of the Little Bighorn River was submitted in 1990, however Congress has not acted on this recommendation. Under some Forest plan alternatives, a length of the Little Bighorn is recommended for Wild and/or Scenic designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress. The Dry Fork had formerly been proposed as a site for a pumped-storage hydroelectric dam, but the project is no longer being considered.

**Minerals** Historic placer mining occurred along the Little Bighorn River in the early 1900s, but no significant production resulted from this activity. There are currently no active mining, oil and gas leasing, or mineral claims in this unit. There are no withdrawals and the area is considered to have low mineral and no oil/gas potential.

**Heritage resources** There is a ceremonial site within the area and a prehistoric/historic travel route adjacent to the area. Smith Creek Stock Driveway, located outside the east boundary of the unit, is a historic livestock driveway and travel route used by native peoples for the past 10,000+ years. The presence of a nearby heritage travel corridor is an indicator for high potential for other eligible heritage resources in the area.

**Fire** Several small fires have occurred within the area including the Little Horn Fire (1914), Little Horn River Fire (1919) and more recently, the West Pass Fire (1996). The Pumpkin Creek Fire burned 4,560 acres in 1970.

Fire regimes vary with vegetation composition and elevation, with the majority of the unit in the Douglas fir, limber pine and juniper regime group. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present.

**Other** The eastern boundary has private, Wyoming State and Bureau of Land Management land adjoining the area. Kerns Big Game Winter Range, administered by the State of Wyoming, borders the unit in the northeast corner of the area. There are several private cabins along the Little Bighorn River where it leaves the Forest.

The Bull Elk Park Research Natural Area (728 acres) is located within the unit and features a disjunct region of Palouse Prairie Climax – *Agropyron-Festuca* association. Mann Creek is a proposed Research Natural Area in the unit that contains genetically pure Yellowstone cutthroat trout and several sensitive species of plants.

Table C-8. Management area acres for Alternative A, Little Bighorn Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-motorized Summer; Limited Winter Motorized	17,875
1.33 Backcountry Recreation; Limited Summer and Winter Motorized Use	8,001
1.5 National River System-Wild River	10,757
2.2 Research Natural Areas	1,050
3.31 Backcountry Recreation-Motorized	1,151
3.5 Plant and Wildlife Habitat Management	8,048
4.2 Scenery	273
5.11 Forest Vegetation Emphasis	2,456
5.12 Rangeland Vegetation Emphasis	13,887
5.13 Forest Products	3,651

### Capability Assessment

(All ratings are high, medium, low or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... high

Excellent solitude opportunities are provided yearlong, with the exception of hunting season, when activity increases with big game hunting. Wild river recommendation describes a core area of solitude.

Natural and free from disturbance ..... high

Much of the area is remote and possesses a high degree of naturalness. There are several cow camps and stock driveways near boundaries of the unit that can impact solitude and disturbance.

Challenge ..... high

The area is rugged with large, rarely accessed areas and broken up by steep, deeply incised, dark canyons.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking ..... high

## ROADLESS AREA MANAGEMENT

Hunting .....	high
Cross-country skiing .....	med
Mountain climbing .....	med

### Environmental and special features

Scientific, educational, or historic values .....	high
Variety and abundance of wildlife .....	high
Special features .....	high

This area offers a high degree of opportunity for outdoor education and environmental study. The Bull Elk Park RNA provides a scientific study opportunity. Mann Creek is a proposed Research Natural Area that contains genetically pure Yellowstone cutthroat trout and high quality occurrences of sensitive plants. The area is frequently accessed by Crow Indians. The scenic features of the area are considered outstanding due to the extensive views, plant types, moss communities, and the sedimentary geology featuring limestone and dolomite canyons. The river corridors are inhabited by a wide variety of terrestrial and aquatic wildlife species.

### Manageability-the extent that boundaries:

Are recognizable .....	med
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use .....	high

Manageability of boundaries is high due to Forest Service control of boundaries and the large size of the core area. The Forest controls access to all of the upper elevation areas. Limited conflicts may occur at the mouth of the Little Bighorn Canyon where an easement exists across private land.

**Conclusion** – The high degree of solitude and naturalness combined with its large size and unique environmental features make this area **Capable** for wilderness and it will be further evaluated for availability and need.

### Availability Determination

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No |
| 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation?                              | No |

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### Need Determination

**Nearby Wilderness:** The roadless area lies approximately 18 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness Area.

**Wildlife Needs:** The area contains WYNDD records for genetically pure Yellowstone cutthroat trout, the water vole, and three sensitive plants. No species have been identified in the Little Bighorn area that require a wilderness environment for survival.

**Areas of Biological Interest:** Several species of sensitive plants including Cary beardtongue (*Penstemon caryi*), Howard forget-me-not (*Eritrichum howardii*), and large yellow lady's slipper (*Cypripedium calceolus* var *pubescens*) are located in the roadless area. Several of these sensitive species populations are located in three of the Forest's "biological areas" known as Mann Creek, Boyd Ridge, and Dry Fork. These areas have been designated by the WYNDD as biological areas for their important concentrations of rare taxa and representative vegetation communities. All three areas are ranked by WYNDD as B3: high significance areas.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. Little Bighorn Roadless Area consists of lower elevation ecosystems that feature rivers cutting through rugged canyons and Douglas fir forests. This lower elevation ecosystem is not currently well-represented in the Wyoming wilderness system.

## ROADLESS AREA MANAGEMENT

The following table displays percentage of the cover types represented in this roadless area.

Table C-9. Percent of cover types in the Little Bighorn Roadless Area.

Cover Type	Acres	Percent
Forb	2,555	4
Grass	5,902	9
Bare	44	-
Rock	3,041	5
Shrub	1,025	2
Sagebrush	1,531	2
Willow	61	-
Aspen	786	1
Cottonwood/willow		
Douglas fir	2,5746	38
Limber pine	5,441	8
Lodgepole pine	3,390	5
Ponderosa pine	2,626	4
Pinyon-juniper		
Spruce-fir	14,924	22

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-10. Limited representation cover types in the Little Bighorn Roadless Area.

Cover Type	Acres in Little Bighorn Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine	2,626	32%
Douglas fir	25,746	47%
Lodgepole pine	3,390	6%
Big sagebrush	1,531	23%
Pinyon-juniper		
Aspen	786	29%
Grass	5,902	55%
Limber pine	5,441	70%



**Environmental Consequences:**

The following table shows the management prescription allocations by alternative for the Little Bighorn roadless area (67,149 acres).

Table C-11. Management prescriptions by alternative for the Little Bighorn Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.2			40,938		
1.31		13,138			600
1.32	17,875	5,836	5,818	13,316	7,478
1.33	8,001	6,564		3,322	7,053
1.5	10,757	10,176	10,176	10,113	10,271
2.2	1,050	7,108	7,108	7,108	1,050
3.31	1,151		330	428	189
3.4		487	487	487	468
3.5	8,048	21,635	1,578	20,738	
4.2	273				
4.3					839
4.4				63	
5.11	2,456	813	714	5,361	5,608
5.12	13,887	1,393		6,214	
5.13	3,651				7,698
5.13.1					
5.4					25,894

The following table summarizes the Little Bighorn roadless area acreage by alternative for the groups shown in Table C-5.

Table C-12. Little Bighorn roadless acres retaining and not retaining roadless character.

Management Rx	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	37,683	42,821	64,040	33,858	26,452
Acres Not Retaining Roadless Character	29,466	24,328	3,109	33,291	40,697

## Roadless Area BH021 – Devil’s Canyon

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<b>Acres</b>	12,476
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02021 Devil’s Canyon Roadless Area (34,280 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately seventeen air miles east of the town of Lovell, Wyoming in Big Horn County. Primary access is provided by US Highway 14A, Devils Canyon Road (FR 14), Medicine Mountain Road (FR 12), Mexican Hill Road (FR 141) and Porcupine Falls Road (FR 146). Non-motorized access is available through Bucking Mule Falls National Recreation Trail (FT 053), Tillet’s Hole Trail (FT 052), and Railroad Springs Trail ( FT 054).
<b>Surroundings</b>	The area is bordered by Porcupine Creek, Forest roads, timber sales, and the Intermission Fire along its east boundary. The west boundary follows Medicine Mountain – Little Mountain Road (FR 12). Bureau of Land Management and private lands adjoin the Forest boundary in the north. Medicine Mountain and Medicine Wheel National Historic Landmark lie just outside the area boundary near the southwest corner of the area.
<b>Physical and biological description</b>	<p>Elevations range from 5,600 feet where Porcupine Creek leaves the Forest boundary, to 9,400 feet along the area boundary below Medicine Mountain. The area features a series of west facing middle to high elevation plateaus and ridges cut by major canyons draining to the northwest. Underlain by deep limestone rock formations, the major creek drainages have deeply incised portions of the area producing striking canyon formations and water passages. There are forested stands of Douglas-fir and limber pine surrounding the canyons in the north half of the area, where sedimentary soils and lower elevations prevail. Engelmann spruce-subalpine fir forests dominate the southern half of the roadless area in between scattered parks of big sagebrush, Idaho fescue, and bluebunch wheatgrass in the upland areas. Annual precipitation ranges from 17 inches in the lower elevations along Devil’s Canyon to 33 inches north of Medicine Mountain. The majority of precipitation falls as snow between the months of October and April in the higher elevations.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands, with associated soils that are shallow to moderately deep, well-drained and formed in residuum/colluvium derived from shale and limestone. Factors limiting reforestation/revegetation include droughtiness of the soils and steep slopes.</p>

**Physical and biological description**

There is a narrow band of granitic breaklands and mountain slopes along the east boundary of the unit, featuring soils formed in residuum derived from granite. Steep slopes of granitic talus limit development and revegetation.

**Features**

Dominant visual features are Devil's Canyon, Bucking Mule Falls, and Porcupine Falls. Medicine Mountain, Mexican Hill, and Cone Mountain are high points in the landscape visible from certain locations in the area. The town of Lovell can be seen from the area at night. Bucking Mule Falls is a scenic attraction accessed by a National Recreation Trail.

**Resource Uses****Vegetation**

Vegetation is comprised of 40% Douglas fir, 36% spruce-fir, 8% sagebrush, 8% grass/forb, 5% lodgepole pine, and the remainder non-vegetated. There are several timber sales located outside the east boundary of the area. The Firestop Timber Sale harvest units are located east of Bucking Mule Falls. Effects from the Intermission Fire (1988) and the subsequent Intermission Salvage Sale are evident east of Porcupine Falls. The Porcupine Timber Sale is located outside the southern boundary. Douglas fir bark beetle is causing mortality in the Douglas fir forests of the area.

Some of the uplands and riparian areas show impacts from grazing. Sagebrush stands have been treated with prescribed fire in the area. Prescribed fire has been used in densely stocked and decadent sagebrush stands to increase the number and variety of native grasses and forbs available for livestock and wildlife forage, and improve livestock distribution.

There are no known occurrences of Forest sensitive species in the unit, but populations of wooly twinpod (*Physaria didymocarpa* var. *lanata*) and Cary beardtongue (*Penstemon caryi*) have been located just outside the roadless area boundary on Medicine Mountain. Several of these sensitive species populations are located in the Medicine Mountain Biological Area. The "biological areas" have been identified by the WYNDD as significant areas that contain important concentrations of rare taxa and their representative vegetation communities.

## ROADLESS AREA MANAGEMENT

<b>Recreation</b>	<p>The area receives moderate recreational use in the form of hiking, fishing, horseback riding, camping, backpacking, scenery viewing, and photography. Bucking Mule Falls is a scenic attraction accessed by a National Recreation Trail (FT 053). Bucking Mule Falls Trail (FT 053), Railroad Springs Trail (FT 054), and Tillet's Hole Trail (FT 052) provide access to the rugged canyon country of the Porcupine Creek drainage. Porcupine, Bucking Mule, and Big Tepee Creeks are classified as Class III trout streams (important trout waters and fisheries of regional importance) by the Wyoming Game and Fish Department. Snowmobile trails are located outside area boundaries, with one ungroomed trail that terminates near Bucking Mule Falls. There are special use permits authorized for summer use and fall hunting near the north boundary of the area. Two cabin permits are authorized on Porcupine Creek and accessed by FR 137. The Jesse Howe Cabin, located near the Forest boundary on Hannans Coulee, is used by a permitted outfitter-guide and accessed by FR 107. The ROS rating includes Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized areas.</p>
<b>Wildlife</b>	<p>Big game species within the area include elk, deer, mountain lion, and black bear. Various birds, raptors, small mammals, and furbearers are found in the area including yellow-bellied marmot, beaver, grouse, and golden eagle. The area provides summer and fall range for elk and deer, and there is an area of suitable habitat for year long use that extends from the ridge above Hannans Coulee northward and off Forest. This general area of year round habitat is also used by cow elk for parturition purposes. There is a population of approximately 30-50 Rocky Mountain bighorn sheep in the Devil's Canyon area adjacent to the Forest, and this population may have potential to expand use onto the Forest or interact with bighorn sheep on the Forest. Porcupine, Bucking Mule, and Big Tepee Creeks support rainbow and brook trout populations, and are classified as Class III trout streams (important trout waters and fisheries of regional importance) by the Wyoming Game and Fish Department. There is past and recent beaver activity along Porcupine Creek. The roadless area is contained within the Porcupine/Mann Creek lynx habitat unit. The Canada lynx (<i>Lynx canadensis</i>) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.</p>
<b>Range</b>	<p>Located within Devil's Canyon, Medicine Mountain, and Mexican Hill Cattle and Horse Allotments, typical range improvements such as fences, water developments, and cow camps are located within and adjacent to the area. Pastures are operated under a deferred rotation grazing system and are administered by the Devil's Canyon Allotment Management Plan.</p>
<b>Water</b>	<p>The area is contained entirely within the Upper Porcupine Creek Watershed and the primary drainage features are Porcupine Creek, Bucking Mule Creek, Railroad Springs Creek, Big Tepee Creek, Little Tepee Creek, and Long Park Creek. The streams are in a natural free-flowing state and are not located within a municipal watershed. Under some Forest plan alternatives, a length of Porcupine Creek is recommended for Wild designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress.</p>

<b>Minerals</b>	Historic placer mining occurred along Porcupine Creek, but no significant production resulted from this activity. There are currently no active mining, oil and gas leasing, or mineral claims in this unit. The area is considered to have low mineral and no oil/gas potential. There is a mineral entry withdrawal recorded for the area near Porcupine Creek Campground. <sup>2</sup>
<b>Heritage resources</b>	The Medicine Wheel National Historic Landmark is located outside the southwest boundary of the area. This heritage site is under consideration for expansion into part of Devil's Canyon Roadless Area. There is a prehistoric/historic travel route adjacent to the unit. The presence of a heritage travel corridor near the boundary of the roadless area indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	<p>There is a history of scattered fire activity in the region. Several small fires occurred in the early 1900s that consumed a total of approximately 300 acres within the roadless area. They include the Devil's Canyon Fire (1916), the Railroad Springs Fire (1919), and the Porcupine Basin Fire (1913). The Intermission Fire burned 1,210 acres near Porcupine Falls in 1988, but was contained outside the roadless area boundary.</p> <p>Fire regimes vary with vegetation composition and elevation, with the north half of the area in the Douglas fir, limber pine and juniper habitat type. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The southern half of the area is located within the Engelmann spruce-subalpine fir habitat type. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. There are a few stands along the east boundary of lodgepole pine associated with granitic soils. The lodgepole pine habitat typically experiences a high-intensity burn regime that results in stand replacement. The scattered areas of sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.</p>
<b>Other</b>	The Medicine Mountain Biological Area extends into this roadless area and contains important concentrations of rare taxa and their representative vegetation communities. The Medicine Wheel National Historic Landmark is under consideration for expansion (and includes part of the Devil's Canyon Roadless Area in that expansion). Use restrictions are recorded near the Medicine Wheel National Historic Landmark. <sup>3</sup> There are right-of-way easements along the Medicine Mountain Road and Radar Site for travel and support purposes. <sup>4</sup> A Federal Aviation Administration radar site is atop Medicine Mountain. Several access points are situated on private land along the north and west boundaries. The recent purchase of the Devil's Canyon Ranch by the Trust for Public Land (for the BLM) enhances the area's manageability and overall capability ratings.

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<sup>2</sup> Recorded mineral entry withdrawal Porcupine Creek (Rec Area): T 56N R 92W, Sec 12, 13

<sup>3</sup> Recorded use restriction Medicine Wheel National Historic Site T 56N R 92W Sec 15, 16

## ROADLESS AREA MANAGEMENT

Table C-13. Management area acres for Alternative A, Devil's Canyon Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-motorized Summer; Limited Winter Motorized	4,869
3.5 Plant and Wildlife Habitat Management	146
5.11 Forest Vegetation Emphasis	370
5.12 Rangeland Vegetation Emphasis	4,129
5.13 Forest Products	2,962

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high

Opportunities for solitude are considered very good in this roadless area. Wild river recommendation describes a core area of solitude. The fringes of the area experiences increased use during big game hunting seasons.

Natural and free from disturbance ..... high

The area is largely natural and undeveloped. There is minimal disturbance created by the grazing of domestic livestock, range improvements, and hiking trails. An FAA radar tower is visible from certain locations within the area.

Challenge ..... high

The area offers a high degree of challenge due to the rugged terrain with canyons and large changes in elevation.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking..... high

Hunting ..... high

Cross-country skiing..... low

Mountain climbing..... med

<sup>4</sup> Recorded ROW for Medicine Mountain Road/Radar Site T 56N, R 92 W Sec 22, 23, 24

## Environmental and special features

Scientific, educational, or historic values .....	med
Variety and abundance of wildlife.....	high
Special features.....	high

The scenic features of the area are considered outstanding due to the steep canyons, extensive views, and the sedimentary geology. Bucking Mule Falls and Porcupine Falls are scenic destinations. The river corridors are inhabited by a wide variety of terrestrial and aquatic wildlife species. Under some Forest plan alternatives, a length of Porcupine Creek is recommended for Wild designation under the Wild and Scenic Rivers Act of 1968.

## Manageability-the extent that boundaries:

Are recognizable.....	high
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use.....	high

Terrain along the east boundary restricts motorized access into the core area, but is more moderate along the west side where the boundary may be more difficult to manage. Several access points along private land are located along the north and west boundaries of the area. The recent purchase of the Devil's Canyon Ranch by the Trust for Public Land (for the BLM) enhances the manageability and overall capability ratings.

**Conclusion:** This area lies in the high range of capability. It has high opportunities for solitude and challenge, and will be considered **Capable** for wilderness and will be further evaluated for availability and need.

**Availability Determination**

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No |
| 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation?                              | No |

**Conclusion:** Based on the resource potentials and management considerations described above, This area has been determined to be **Available** for wilderness.

### **Need Determination**

**Nearby Wilderness:** The roadless area lies approximately 25 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness.

**Wildlife Needs:** No species have been identified in the Devil’s Canyon area that require a wilderness environment for survival.

**Areas of Biological Interest:** There are no known occurrences of Forest sensitive species in the unit, but populations of woolly twinpod (*Physaria didymocarpa* var. *lanata*) and Cary beardtongue (*Penstemon caryi*) have been located just outside the roadless area boundary on Medicine Mountain. Several of these sensitive species populations are located in the Medicine Mountain Biological Area. The “biological areas” have been identified by the WYNDD as significant areas that contain important concentrations of rare taxa and their representative vegetation communities. This biological area is ranked by WYNDD as B3: high significance area.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. The lower elevation ecosystems including Douglas fir forests and mountain shrub communities are uncommon in nearby Wyoming wilderness areas. The Devil’s Canyon area contains semiarid canyon lands, lower elevation mosaics of forest and rangeland, and arid sagebrush steppe.

The following table displays percentage of the cover types represented in this roadless area.

Table C-14. Percent of cover types in the Devil’s Canyon Roadless Area.

<b>Cover Type</b>	<b>Acres</b>	<b>Percent</b>
Forb	598	5
Grass	477	4
Bare		
Rock	110	1
Shrub	6	-
Sagebrush	1,035	8
Willow	6	-
Aspen		
Cottonwood/willow		
Douglas fir	5,070	41
Limber pine	71	1
Lodgepole pine	591	4



Cover Type	Acres	Percent
Ponderosa pine		
Pinyon-juniper		
Spruce-fir	4,512	36

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-15. Limited representation cover types in the Devil's Canyon Roadless Area.

Cover Type	Acres in Devil's Canyon Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine		
Douglas fir	5,070	9%
Lodgepole pine	591	1%
Big sagebrush	1,035	15%
Pinyon-juniper		
Aspen		
Grass	477	4%
Limber pine	71	1%

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Devil's Canyon roadless area (12,476 acres).

Table C-16. Management prescriptions by alternative for the Devil's Canyon Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.2			4,506		
1.32		3,198		4,366	
1.33	4,869	839			2,997
1.5		1,094	1,094		
3.1		6,800	6,803	6,800	6,800
3.5	146		46		
4.3					
5.11	370			122	576
5.12	4,129	546	27	1,188	
5.13	2,962				558

## ROADLESS AREA MANAGEMENT

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
5.4					1,184
5.5					363

The following table summarizes the Devil's Canyon roadless area acreage by alternative for the groups shown in Table C-5.

Table C-17. Devil's Canyon roadless acres retaining and not retaining roadless character.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	4,871	5,131	5,599	4,366	2,996
Acres Not Retaining Roadless Character	7,605	7,345	6,877	8,110	9,480

## Roadless Area BH023 – Walker Prairie

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<b>Acres</b>	46,559
<b>Ranger District</b>	Powder River
<b>History</b>	This area was originally part of #02023 Walker Prairie Roadless Area (62,530 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 17 air miles west of Sheridan, Wyoming in Sheridan County. Primary access is provided by US Highway 14, the Big Goose Road (FR 26), the Gloom Creek Road (FR 223), the Game Creek Road (FR 312), and the South Fork Little Tongue Road (FR 186). Non-motorized access is available through private land on Eaton's Ranch via the Wolf Creek Trail (FT 001) and the Roosevelt Trail (FT 016). Other trails in the area include the Walker Prairie Trail (FT 014), the Quartz Creek Trail (FT 003), the Herdrick Ridge Trail (FT 005), and the Big Goose Canyon Trail (FT 017).
<b>Surroundings</b>	The Forest boundary forms the east boundary of the area, the south boundary follows Big Goose Road (FR 26), and the Gloom Creek Timber Sale and Black Mountain are located outside the area on the west side.
<b>Physical and biological description</b>	Area elevations range from 4,800 feet where Big Goose Creek leaves the Forest boundary, to nearly 10,000 feet in the southwest corner of the area. The area is located along the eastern edge of the Big Horn Mountains, rising from the basin through a series of steep ridges and deeply incised canyons to rolling and moderately steep mountains in mid to higher elevations. The area is predominantly forested, with areas of Douglas fir and ponderosa pine along Forest boundary, to a dominance of lodgepole pine in the central and western portion of the area. Much of the lodgepole type is very old, especially in the Gloom and Quartz Creek areas. Small grassy parks and meadows are scattered throughout the area, which contain Idaho fescue, sedges, tufted hairgrass, and alpine timothy. Walker Prairie is a narrow, extended meadow approximately 2,000 acres in size, with Idaho fescue and upland sedges as the primary plant community. Numerous streams drain the area to the east and some have developed deeply incised and rugged canyons; most notably, the Little Tongue River, South Fork Little Tongue River, Wolf Creek, Big Goose Creek, and Rapid Creek. Cascades and waterfalls are found in area streams, including a seventy foot waterfall on the East Fork of Big Goose Creek. Annual precipitation ranges from 18 to 28 inches and the majority falls as snow during the period from October through May.

## ROADLESS AREA MANAGEMENT

### Physical and biological description

The eastern edge of the area is characterized by sedimentary breaklands and mountains slopes featuring uplifted layers of Amsden, Madison and Bighorn limestones, and Deadwood formation sandstone, shale and limestone. Soils in this region are formed in residuum and colluvium derived from limestone sandstone, and shale. Factors that limit development and revegetation include the high rock fragment content and droughtiness of the soils, and steep slopes. The shale soils are particularly erosive and prone to landslides.

Landtype associations in the central and western portion of the area feature mountain slopes and breaklands of granitic origin. Soils in this region have formed in residuum derived from Precambrian granite and gneiss. Factors limiting revegetation and development include areas of rock outcrop, steep slopes, and the high rock fragment content of certain soils.

### Features

The area features tree-covered mountainous terrain interspersed with small openings, and deeply incised canyons in the eastern portion of the area. Black Mountain, Lookout Mountain, Walker Mountain, and Walker Prairie are dominant visual features. The numerous canyons add variety to the landscape. The remote, natural character of the area and substantial trail network provide a large expanse of backcountry, non-motorized recreation.

### Resource Uses

#### Vegetation

Vegetation is largely unmodified and heavily forested. Vegetation is comprised of 56% lodgepole pine, 16% Douglas fir, 7% spruce-fir, 5% ponderosa pine, 13% grass/forb, and the remainder is non-vegetated. This roadless area has decreased in size by about 15,000 acres since the 1983 inventory, due to the Gloom Creek and Squirrel Timber Sales and associated road building along the west side. Several rare perennial herbs that are sensitive species in the WYNDD occur in lower elevation habitat types in this area. Mountain lady's-slipper (*Cypripedium montanum*), Large yellow lady's-slipper (*Cypripedium parviflorum* var *pubescens*), and Broad-leaved twayblade (*Listera convallarioides*) have been documented along trails near the Forest boundary.

#### Recreation

The majority of recreational use involves camping, hiking, horseback riding, fishing, and hunting. Activity level is light to moderate, with horseback riding and hiking the most common summer activities. Walker Prairie and area trails experience moderate to heavy use during hunting season. The Little Tongue River, Wolf Creek, and Big Goose Creek (East and West Forks, mainstem) are rated as Class III fisheries, and support populations of brook, rainbow, and brown trout. Snowmobiling is popular outside the area boundary to the south along the Big Goose Trail. Special use permits are authorized for summer horseback rides and fall hunting. Nearly 80% of the area has a recreation emphasis of Semi-primitive Non-motorized, with small sections of Semi-primitive Motorized, Primitive, and Roaded Natural. Public access is controlled through private lands at Eaton's Ranch and PK Lane.

<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The area provides spring calving, summer, fall, and critical winter habitat for elk and deer. The heavily forested condition of the area provides elk security during hunting season. Several streams support fishable populations of brook, brown, and rainbow trout. Two sightings of the North American wolverine ( <i>Gulo luscus</i> ), a Forest sensitive species, have been documented in the southern portion of this area. The roadless area is located in part of the South Tongue/Shell lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	The area is contained within the Walker Prairie, Rapid Creek, Wolf Creek, and Little Tongue Cattle and Horse Allotments. Typical range improvements such as fences, water developments, and cow camps are located within the area. The Little Tongue Stock Driveway (FT 426) is located in the north part of the area.
<b>Water</b>	This area is located within part of the Wolf Creek above Wolf, East/West Forks of Big Goose Creek, Big Goose and Rapid Creek, and the Little Tongue River Watersheds. The southern half of the area is located within the Goose Creek Municipal Watershed which supplies water to the community of Sheridan and the Veteran's Administration Hospital (Sheridan). Several of the streams, including Rapid Creek and the West Fork of Big Goose are used as waterways for the upstream water impoundments of Park Reservoir and Twin Lakes, and flows are regulated through the area by the water users.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral potential. There is low potential for oil and gas occurrence along the east boundary.
<b>Heritage resources</b>	There is a ceremonial site within the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	<p>The area experienced frequent fire activity during the period 1909-1919, with six fires that burned approximately 6,000 acres in the north half of the roadless area.</p> <p>Fire regimes vary with vegetation composition and elevation, with the majority of the unit in the lodgepole pine habitat type. Lodgepole pine stands typically experience a high-intensity burn regime that results in stand replacement. The other primary burn regime is in the Douglas fir habitat type. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present.</p>

## ROADLESS AREA MANAGEMENT

**Other** The majority of land adjacent to the Forest boundary on the east side of the area is private, in addition to small tracts of State and Bureau of Land Management lands. Two popular access points are controlled by private ownership at Eaton's Ranch and PK Lane. A piece of private land (T55N, R86W, Sec 21) is along the Forest boundary near PK Lane and within the roadless area. A small piece of private land north of Red Grade Road (T54N, R85W, Sec 20) is along the Forest boundary and within the roadless area. State land borders the northwest corner of the area in T56N, R87W, Sec 28, 33, and 34.

Table C-18. Management area acres for Alternative A, Walker Prairie Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-motorized Summer; Limited Winter Motorized	829
3.5 Plant and Wildlife Habitat Management	20,308
5.11 Forest Vegetation Emphasis	15,115
5.12 Rangeland Vegetation Emphasis	1,233
5.13 Forest Products	5,941
5.41 Deer and Elk Winter Range	3,133

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high

Solitude opportunities are rated high due to the presence of mostly non-motorized trails. Increased use occurs along Wolf Creek in the summer, and along trails in the fall hunting season.

Natural and free from disturbance ..... high

The area possesses a high degree of naturalness.

Challenge ..... high

The area offers a high degree of challenge due to the varied terrain, steep canyons, and limited access.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking..... high

Hunting .....	high
Cross-country skiing .....	low
Mountain climbing .....	low

The substantial trail network provides a large expanse of backcountry, non-motorized recreation.

#### Environmental and special features

Scientific, educational, or historic values .....	high
Variety and abundance of wildlife .....	high
Scenic and special features .....	high

This area offers a high level of opportunity for outdoor education and environmental study. There are opportunities to study sedimentary canyons and landforms, and rare plants in the lower elevations of the roadless area. Scenic features are rated high, with Walker Prairie and Bear Mountain popular destinations. There are expansive views from the east face of the Big Horns into the Powder River Basin.

#### Manageability-the extent that boundaries:

Are recognizable .....	high
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use .....	med

Manageability of the area is considered high in most of the area; while the western boundary is defined by the limits of managed timber sale areas. Private lands and privately controlled access points may pose some challenge to manageability.

**Conclusion:** The area's high degree of solitude and naturalness, its large size and primitive recreation opportunities combine to make this an excellent example of a roadless area. It will be considered **Capable** for wilderness and will be further evaluated for availability and need.

#### **Availability Determination**

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No |

## ROADLESS AREA MANAGEMENT

6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### Need Determination

**Nearby Wilderness:** The roadless area lies approximately 3 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness.

**Wildlife Needs:** The area contains WYNDD records for wolverine. No species have been identified in the Walker Prairie area that require a wilderness environment for survival.

**Areas of Biological Interest:** Several rare perennial herbs that are sensitive species in the WYNDD occur in lower elevation habitat types in this area. Mountain lady's-slipper (*Cypripedium montanum*), Large yellow lady's-slipper (*Cypripedium parviflorum* var *pubescens*), and Broad-leaved twayblade (*Listera convallarioides*) have been documented along trails near the Forest boundary.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. The Walker Prairie area features canyon lands and lower elevation mosaics of forest and rangeland, as well as subalpine mountainous landforms. Several streams drain the area through deeply incised granitic and sedimentary canyons, before leaving the Forest boundary and emptying into the Powder River Basin. The canyon lands and lower elevation ecosystems are uncommon in nearby Wyoming wilderness areas.

The following table displays percentage of the cover types represented in this roadless area.

Table C-19. Percent of cover types in the Walker Prairie Roadless Area.

Cover Type	Acres	Percent
Forb	2,647	6
Grass	2,463	5
Bare	1	-
Rock	391	1
Shrub	45	-
Sagebrush	354	1
Willow	9	-
Aspen	460	1
Cottonwood/willow	2	-
Douglas fir	7,294	16
Limber pine	1,450	3



Cover Type	Acres	Percent
Lodgepole pine	26,078	56
Ponderosa pine	2,160	5
Pinyon-juniper		
Spruce-fir	3,207	7

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-20. Limited representation cover types in Walker Prairie Roadless Area.

Cover Type	Acres in Walker Prairie Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine	2,160	26%
Douglas fir	7,294	13%
Lodgepole pine	26,078	43%
Big sagebrush	354	5%
Pinyon-juniper		
Aspen	460	17%
Grass	2,463	23%
Limber pine	1,450	19%

### ***Environmental consequences:***

The following table shows the management prescription allocations by alternative for the Walker Prairie roadless area (46,559 acres).

Table C-21. Management prescriptions by alternative for the Walker Prairie Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.2			44,075		
1.32	829				
2.1		5,626			
3.5	20,308	38,892	926	36,403	
4.2		1,003	1,003	1,361	
4.3		658	555	62	
5.11	15,115	305		6,875	
5.12	1,233				

## ROADLESS AREA MANAGEMENT

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
5.13	5,941	75		1,858	49
5.4					41,842
5.41	3,133				2,313
5.5					2,355

The following table summarizes the Walker Prairie roadless area acreage by alternative for the groups shown in Table C-5.

Table C-22. Walker Prairie roadless acres retaining and not retaining roadless character.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	829	5,626	44,075		
Acres Not Retaining Roadless Character	45,730	40,933	2,484	46,559	46,559

## Roadless Area BH025 – Hideout Creek

<b>Acres</b>	8,559
<b>Ranger District</b>	Tongue and Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02025 Hideout Creek Roadless Area (10,750 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located in the northwest corner of Sheridan County, Wyoming, thirty air miles west of the city of Sheridan. Motorized access is provided by US Highway 14A, which parallels the southern boundary of the area, and by Fool Creek Road (FR 178), which parallels the northern boundary. The Fishhook Trail (FT 018) along Fishhook Creek is the sole designated trail in the area.
<b>Surroundings</b>	The area is bounded on the south by US Highway 14A and the North Tongue River. Fool Creek Road (FR 178) forms the north boundary. The Bear Rocks Roadless Area (BH026) is a short distance to the south of US 14A.
<b>Physical and biological description</b>	<p>Area elevations range from 8,000 along the North Tongue River to 9,600 feet. The area lies along a south facing high elevation ridge. A hilly area, this region is also composed of steep canyon walls that rise abruptly from the North Tongue River. A series of small streams, including Pole Creek, Fishhook Creek, and Tongue River drain the area to the south. The climate results in a dominance of range vegetation, with subalpine forest areas of Engelmann spruce and lodgepole pine found on cooler north-facing slopes. The nearby Burgess Junction weather station record shows that 21.5 inches of precipitation falls annually here, with 240 inches occurring as snow.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands. The associated soils have formed from materials derived from interbedded shale, sandstone, and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is poor to good. The shale soils are particularly erosive and prone to landslides. Other factors limiting development and revegetation include steep slopes and the high rock fragment content of the limestone soils.</p>
<b>Features</b>	The most unique feature within the area is the “Garden of the Gods”, a rock formation above the North Tongue River. The North Tongue River is contained within the Forest’s management area prescription of Wild and Scenic Rivers and provides good fishing opportunities. Most of Hideout Creek Roadless Area is visible from US Highway 14A.

## Resource Uses

<b>Vegetation</b>	The Hideout landscape is dominated by range vegetation comprised of 40% grass, 35% spruce-fir, 14% sagebrush, and 7% willow. Populations of Cary beardtongue ( <i>Penstemon caryi</i> ), a Forest sensitive species, are located in the area.
<b>Recreation</b>	The majority of recreational use involves hiking, horseback riding, fishing, and hunting activities. Fishing in the North Tongue River is the predominant summer recreational use as the North Tongue River is rated a Class II fishery by the Wyoming Game and Fish Department. There is moderate big game hunting pressure in the area. Snowmobiling is very popular along a groomed loop trail that follows Highway 14A to Garland Gulch and Schuler Park. The ROS ratings are Semi-primitive Motorized, Roaded Natural, and Rural (along US 14A).
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The river corridors provide important habitat for many terrestrial and aquatic wildlife species. The riparian areas serve as feeding and nesting sites for birds and rock walls in the Garden of the Gods offer nesting habitat for peregrine falcons. Peregrine falcons were reintroduced to the Garden of the Gods area in the late 1980s. The area includes spring calving and summer habitat for deer and elk. The Wyoming Game and Fish Department stocks Yellowstone cutthroat and Snake River cutthroat trout in the North Tongue River, which also hosts rainbow, brook, and brown trout populations. The water vole ( <i>Microtus richardsoni</i> ), a Forest sensitive species, has been observed along Fool Creek just outside the roadless area boundary. The roadless area is contained within the North Tongue/Cedar lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	The area is contained within portions of Pole Creek Cattle and Horse Allotment, Upper and Lower Tongue Cattle and Horse Allotments, and Fishhook Sheep and Goat Allotment. The allotments are administered by the Tongue River Allotment Management Plan. There are numerous fences and other structural range improvements in and adjacent to the area. PK cow camp is located just outside the east boundary of the unit.
<b>Water</b>	The North Tongue River (and tributaries) is located within the Tongue Municipal Watershed that supplies drinking water to the communities of Dayton and Ranchester. The watershed also supplies irrigation water to agricultural lands off the Forest. Under some Forest plan alternatives, 22 miles of the North Tongue River is recommended for Recreational river designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress.

<b>Minerals</b>	There are two mining claims in the area. The area is considered to have low mineral potential no oil/gas potential.
<b>Heritage resources</b>	There are several ceremonial sites and a prehistoric/historic travel route located within the unit. The presence of a heritage travel corridor indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	There are no wildfires on record for this area.  Fire regimes vary with vegetation composition and elevation, with the majority of this unit in the grass/sagebrush habitat type. This regime type experiences high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants. The Engelmann spruce/subalpine fir stands in the area have a historical fire interval of 100+ years and are subject to stand replacement severity burning.

Table C-23. Management area acres for Alternative A, Hideout Creek Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.4 National River Systems-Scenic Rivers	4,510
5.11 Forest Vegetation Emphasis	205
5.12 Rangeland Vegetation Emphasis	3,782
5.13 Forest Products	62

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... low

Opportunities for solitude are limited due to its narrow shape and the visibility of human influences. US Highway 14A experience a high volume of motorized use and the sights and sounds from the highway are noticeable from area boundaries.

Natural and free from disturbance ..... med

The area possesses a moderate degree of naturalness. The area has been affected by sheep grazing. Use of roads and snowmobile trails outside the area cause disturbance. Much of the area lacks vegetative and/or topographic screening to reduce impacts of highway and road travel.

Challenge ..... low

The area offers allows a low degree of challenge due to high elevation open ridgetops and accessibility from nearby roads.

#### Primitive and unconfined recreation

Camping..... med

## ROADLESS AREA MANAGEMENT

Fishing .....	high
Hiking .....	med
Backpacking.....	low
Hunting .....	high
Cross-country skiing.....	med
Mountain climbing.....	low

### Environmental and special features

Scientific, educational, or historic values .....	low
Variety and abundance of wildlife.....	high
Scenic and special features .....	med

The area offers a low level of opportunity for outdoor education. Views are extensive and limestone cliffs are visible from US 14A. Cliff walls provide nesting structure for raptors. Garden of the Gods is an attractive scenic feature, but not a unique landform in the Bighorns.

### Manageability-the extent that boundaries:

Are recognizable .....	high
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use.....	med

The area has an overall high level of manageability. Roads surrounding boundaries define the area.

**Conclusion:** This area lies in the low range of capability. The high volume of traffic on nearby roads and its small size inhibit its value as wilderness; therefore it will be considered **Not Capable** for wilderness.

## Environmental Consequences

The following table shows the management prescription allocations by alternative for the Hideout Creek roadless area (8,559 acres).

Table C-24. Management area prescriptions by alternative for the Hideout Creek Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
3.4	4,510				
4.2		338	338	4,381	3,116
4.3				38	

# ROADLESS AREA MANAGEMENT

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
4.4		4,086	4,085		
5.11	205	2,112	2,113	2,174	2,024
5.12	3,782	2,023	2,023	1,966	
5.13	62				2,153
5.5					1,266

The following table summarizes the Hideout Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-25. Hideout Creek roadless acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character					
Acres Not Retaining Roadless Character	8,559	8,559	8,559	8,559	8,559

## Roadless Area BH026 – Bear Rocks

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<b>Acres</b>	19,501
<b>Ranger District</b>	Tongue and Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02026 Bear Rocks Roadless Area (25,090 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located in the central part of the north half of the Bighorn National Forest, approximately 32 air miles west of Sheridan, Wyoming. Motorized access is available via US Highway 14A, the Hunt Mountain Road (FR 10), and Big Willow Road (FR 159). There are no designated trails in the area.
<b>Surroundings</b>	The area is bordered on the north by US Highway 14A and the North Tongue River, on the east by Big Willow Creek, and on the south and west by the Hunt Mountain Road (FR 10). US Highway 14 lies approximately three miles to the east of the unit. Hideout Creek Roadless Area is a short distance to the north, and Pete's Hole Roadless Area lies to the west.
<b>Physical and biological description</b>	<p>Elevations range from 8,000 feet where Bull Creek exits the roadless area to approximately 10,000 feet along the Hunt Mountain Road. The area is characterized by a series of north facing drainages which flow into the North Tongue River and feature steep limestone canyons and rock outcrops along Wallrock, Trail, and Hidden Teepee Creeks. Vegetation is dominated by Engelmann spruce and subalpine fir stands at the lower elevations, but changes to subalpine/alpine rangelands at higher elevations and exposed ridgetops. The open meadows and parks consist of Idaho fescue and various sedges in the upland areas. Riparian communities along the streams feature extensive areas of willows and sedges, particularly in the Bull Creek and North Tongue River drainages. The nearby Burgess Junction weather station record shows that 21.5 inches of precipitation falls annually, with 240 inches occurring as snow.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands. The associated soils have formed from materials derived from interbedded shale, sandstone, and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is poor to good. The shale soils are particularly erosive and prone to landslides. Other factors limiting development and revegetation include steep slopes and the high rock fragment content of the limestone soils.</p>
<b>Features</b>	The most dominant visual feature in the area are the rocky cliffs along Wallrock Creek. Hunt Mountain is visible in the western portion of the area. The sights and sounds of US Highway 14A are noticeable on the area's north side.



**Resource Uses**

<b>Vegetation</b>	Vegetation composition, structure, and function are within the historic range of variability. Vegetation consists of 65% spruce-fir, 24% grass, 7% sagebrush, and the remainder is non-vegetated. There are no known occurrences of Forest sensitive species in the unit.
<b>Recreation</b>	The majority of recreational use involves hiking, horseback riding, fishing, and hunting activities. Fishing is a popular activity in the North Tongue River - rated a Class II fishery by the Wyoming Game and Fish Department. There is moderate to heavy big game hunting pressure, particularly along the Hunt Mountain Road (FR 10). Snowmobiling outside the roadless area is popular along groomed trails that follow Highways 14 and 14A. Most of the area falls within an ROS rating of Semi-primitive Motorized, and there is also a small amount Roaded Natural.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, golden eagle, and grouse. The river corridors provide important habitat for many terrestrial and aquatic wildlife species. The riparian areas serve as feeding and nesting sites for birds and canyon walls offer nesting habitat for peregrine falcons. The Wyoming Game and Fish Department stocks Yellowstone cutthroat and Snake River cutthroat trout in the North Tongue River, which also hosts rainbow, brook, and brown trout populations. The roadless area is contained within the North Tongue/Cedar lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	The area is contained within portions of the Upper Tongue, Lower Tongue, and the Bull Creek/Bruce Mountain/Woodrock Cattle and Horse Allotments. Sheep also graze the area on the Spring Creek and Wallrock-Hidden Tepee Sheep and Goat Allotments. The allotments are administered under the Tongue River Allotment Management Plan. Typical range improvements such as fences and water developments are located in and adjacent to the area.
<b>Water</b>	The North Tongue River and its tributaries are located within the Tongue Municipal Watershed that supplies drinking water to the communities of Dayton and Ranchester. The watershed also supplies irrigation water to agricultural lands off the Forest. Under some Forest plan alternatives, 22 miles of the North Tongue River is recommended for Recreational river designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress.
<b>Minerals</b>	There are no withdrawals and the area is considered to have low mineral and no oil/gas potential.

## ROADLESS AREA MANAGEMENT

<b>Heritage resources</b>	There are several ceremonial sites and a prehistoric/historic travel route adjacent to the unit. The presence of a heritage travel corridor in the region indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	<p>There are no wildfires on record for this area.</p> <p>Fire regimes vary with vegetation composition and elevation, with the majority of this unit in the spruce-fir habitat type. The Engelmann spruce/subalpine fir stands in the area have a historical fire interval of 100+ years and are subject to stand replacement severity burning. The subalpine grasslands in the higher elevations of this unit typically experiences high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.</p>
<b>Other</b>	There are several special use recreation residences outside the east boundary along Bull and Big Willow Creeks.

Table C-26. Management area acres for Alternative A, Bear Rocks Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.4 National River System-Recreation River	1,922
3.5 Plant and Wildlife Habitat Management	2,851
5.11 Forest Vegetation Emphasis	2,267
5.12 Rangeland Vegetation Emphasis	8,454
5.13 Forest Products	1,998
5.21 Water Yield	2,009

## Roadless Area BH029 – Piney Creek

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<b>Acres</b>	20,933
<b>Ranger District</b>	Tongue
<b>History</b>	This area was originally part of #02029 Piney Creek Roadless Area (23,550) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 2 miles west of Story, Wyoming in the northwest corner of Johnson County. Motorized access is provided in the north via the Kearney Lake Road (FR 320), and along the south boundary by the Willow Park Road (FR 319). Numerous motorized trails are within the area. These include the Story-Penrose Trail (FT 033), portions of the Solitude Loop Trail (FT 038), the South Piney Creek Trail (FT 080), and the Cloud Peak Cutoff Trail (FT 082).
<b>Surroundings</b>	The Forest boundary forms the east boundary of the area, Willow Park Road (FR 319) along the south boundary, and the town of Story is adjacent to the northeast corner of this area. The Kearney Lake Road (FR 320) runs along the north boundary and the Cloud Peak Wilderness is contiguous with the west side of this roadless area. The area is separated from the Rock Creek Roadless Area by the Willow Park Road (FR 319).
<b>Physical and biological description</b>	Area elevations range from 5,600 feet near the Forest boundary to 10,200 feet along the wilderness area boundary. The area lies on the eastern face of the Big Horn range, rising abruptly from the Powder River basin and the foothills of Story to mid-elevations ridges, and upward to alpine tundra at the higher elevations adjacent to the Cloud Peak Wilderness. Ponderosa pine and Douglas fir stands are found along the east edge of the area, but the remainder consists of continuous stands of lodgepole pine, with Engelmann spruce and subalpine fir at the higher elevations and on moist north-facing slopes. A few small parks and meadows are scattered throughout the forest that contain Idaho fescue, sedges, tufted hairgrass, and alpine timothy. In perennially wet meadows, willows and rushes comprise the vegetation. Near the wilderness boundary at elevations approaching 10,000 feet, sparsely vegetated soils of alpine plant community are found along alpine ridges and glacial trough valleys. This glaciated region of the roadless area features moraines, potholes, lakes, and several large reservoirs that function as water impoundments and diversions for the basin area. Annual precipitation ranges from 18 to 28 inches, and the majority falls as snow during the period from October through May.

## ROADLESS AREA MANAGEMENT

<b>Physical and biological description</b>	Landtype associations consist of granitic breaklands and mountain slopes, and areas of glacial moraines and tertiary terraces. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations. Along the Forest boundary, sedimentary soils formed from limestone, sandstone, and shale make up a small percentage of the area.
<b>Features</b>	The Piney Creek area features lodgepole pine/grouse whortleberry forests, with Engelmann spruce and subalpine fir at the higher elevations and on the north facing slopes. Views of the high alpine peaks in Cloud Peak Wilderness and down into the basin are seen from area boundaries.

### Resource Uses

<b>Vegetation</b>	<p>Vegetation is comprised of 72% lodgepole pine, 13% spruce-fir, 7% ponderosa pine, 4% Douglas fir, and the remainder is non-vegetated. The WYNDD contains records of Mountain lady's slipper (<i>Cypripedium montanum</i>), a Forest sensitive species, in the northeast corner of the area. The roadless area contains part of the Story "Biological Area" – areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. The biological area encompasses the habitat of several state rare orchid species and there is additional potential habitat along South Piney Creek. The Story biological area is ranked by WYNDD as B3: high significance area.</p> <p>Pheasant Creek is a potential Research Natural Area south of this roadless area featuring a large area of undisturbed lodgepole pine/grouse whortleberry habitat type. The pine forests surrounding the town of Story are experiencing high mortality due to mountain pine beetle infestations. Story is categorized as a wildland-urban interface community with enhanced risk for wildfire in ponderosa pine forests. Treatment of conifer stands with prescribed fire, fuel break construction in association with prescribed fire, and mechanical thinning is planned to reduce the risk of catastrophic fire in the Story area.</p>
<b>Recreation</b>	The majority of recreational use involves ATV use, hiking, horseback riding, mountain biking, fishing, and hunting. There is a high volume of dispersed recreation associated with the motorized Story-Penrose Trail (FT 033) and from motorized and nonmotorized hunting. The roads adjacent to the area are used primarily for maintenance and operation of the reservoirs. Access to the Kearney Lake Road (FR 320) is controlled at the Forest boundary from private land; on Forest land the road is frequented by ATVs that access it from other points for travel to and from the Forest boundary.

<b>Recreation</b>	The Solitude Loop Trail, the Spear Lake Trail, and Penrose Creek Trail access the Cloud Peak Wilderness. There is a high volume of motorized use by fishermen using ATVs and trailbikes to access area streams and reservoirs. South Piney and Kearney Creeks are rated as Class III fisheries by the Wyoming Game and Fish Department and host populations of brook, rainbow, and brown trout. There are no groomed snowmobile or cross-country ski trails in the area, but a small volume of snowmobilers use the Story-Penrose Trail to access lakes for ice fishing. Big game hunting pressure is moderate, with concentrated activity along motorized trails. Portions of the Solitude Loop Trail (FT 038) are impassable to ATVs due to rock slides. There are outfitter/guide camps at Beaver Lakes, Frying Pan Lake, Flatiron Lake, and Penrose Creek and several special use permits are authorized for summer recreation and fall hunting activities. The ROS classes are Semi-primitive Non-motorized, Semi-primitive Motorized, and a small area surrounding Kearney Reservoir is Roaded Natural. Access to FR 320 at the Forest boundary is controlled from private land.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, pikas, ground squirrels, and grouse. The area provides spring calving, summer, fall, and winter habitat for elk and deer. Several streams support fishable populations of brook, brown, and rainbow trout. The pine marten ( <i>Martes americana</i> ), a Forest sensitive species, has been regularly documented in the lakes and reservoirs region along the west boundary. Sightings of the Three-toed woodpecker ( <i>Picoides tridactylus</i> ), another Forest sensitive species, have been recorded along Kearney Creek. The roadless area is located in part of the Kearney/Rock Creek and Big Goose/Piney lynx habitat units. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act. The Story Fish Hatchery and Visitor Center is operated by the State of Wyoming adjacent to the east boundary of the roadless area.
<b>Range</b>	The area is contained within the Little Piney and Willow Park Cattle and Horse Allotments.
<b>Water</b>	The area is important hydrologically as a collection and storage area for accumulated snow and the drainages are used as water transportation ways. Water released from Kearney Lake Reservoir flows down Kearney Creek into South Piney Creek. Water from Cloud Peak Reservoir is released into South Piney Creek, which flows into Willow Park Reservoir. This water then flows down South Piney Creek or is diverted into the Rock Creek and Piney diversion ditch, which transfers water into the North Fork of Rock Creek. These two streams flow large volumes of water to the valley below during the irrigation season, and they can be difficult to cross during periods of high reservoir water release. South Piney Creek provides a year-round flow of water for the Story Fish Hatchery (Wyoming Game and Fish) on the east boundary of this area. This roadless area is located within part of the North, Middle, South Forks of Rock Creek Watershed, and the North Piney, South Piney, and Piney Creek Watersheds.

## ROADLESS AREA MANAGEMENT

<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral potential. There is low to moderate potential for oil and gas occurrence along the east boundary.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	<p>Fire has been the most dominant disturbance factor in this landscape over the long term. Much of the area features even-aged pole sized lodgepole pine stands, a direct result of large scale stand-replacing fires that occurred during the late 1800s. More recent activity is the Moncreiffe Fire which burned 275 acres near Penrose Park in 1996.</p> <p>Fire regimes vary with elevation and vegetation composition, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce –subalpine fir habitat type. This group has a historical fire interval of 100+ years and also experiences stand replacement severity burning. Ponderosa pine stands flank the east boundary of the area; historically they experience frequent, low-intensity fires that burn the understory, keeping mature stands open and park-like.</p>
<b>Other</b>	<p>Private land and state land are located adjacent to the Forest boundary on the east side. Access to the Kearney Lake Road (FR 320) is controlled from private land at the Forest boundary. Administrative access is authorized along this route for the maintenance and service of Kearney Lake Reservoir. The State of Wyoming operates the Story Fish Hatchery and Visitor Center adjacent to the east boundary of the roadless area. There is a Wyoming Department of Game and Fish cabin outside the roadless area boundary at Snow Lake.</p> <p>The roadless area is within part of the Story “Biological Area” – areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. Cloud Peak Biological Area is adjacent to the west side of the roadless area, and follows the approximate wilderness boundary.</p>

Table C-27. Alternative A management prescriptions for Piney Creek Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.31 Backcountry Recreation-Motorized	218
3.5 Plant and Wildlife Habitat Management	10,451
5.11 Forest Vegetation Emphasis	366
5.12 Rangeland Vegetation Emphasis	3,940
5.13 Forest Products	5,796
5.41 Deer and Elk Winter Range	162

## Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

### Primary Elements

Opportunity for solitude ..... med

The small distance from perimeter to core and the motorized use in the area restricts the opportunities for solitude. The town of Story provides easy access, but elsewhere public access is limited.

Natural and free from disturbance ..... med

The area has an overall moderate degree of naturalness, with its narrow shape bounded by roads and water diversion ditches. Motorized travel creates disturbance.

Challenge ..... med

The area is rated moderately challenging due to the range in elevation.

### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking ..... high

Hunting ..... high

Cross-country skiing..... med

Mountain climbing..... med

### Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife..... high

Scenic and special features ..... high

This area offers a high level of opportunity for outdoor education and environmental study. There are opportunities to study subalpine and alpine ecosystems, glacier-affected land forms, and rare plants in the Story Biological Area. The scenic features are rated high, with glacial streams, high elevations wetlands, and views of the granite peaks of the Cloud Peak Wilderness.

## ROADLESS AREA MANAGEMENT

Manageability-the extent that boundaries:

Are recognizable .....	high
Conform with terrain .....	med
Are manageable .....	low
Constitute a barrier to prohibited use .....	med

The area is narrow and oblong with some areas just over a mile across. Manageability of the area is compromised due to privately controlled access roads and motorized trail use. Some of the boundaries are adjacent to private land on the east side, but are contiguous to the Cloud Peak Wilderness on the western boundary. Kearney Reservoir is a ditch company water storage easement and is excluded from the roadless area to the high water line. Incursions into the area by equipment used for operation and maintenance of reservoirs/ditch may pose a management problem. Private landowners control access to roads outside the area, making administrative access more difficult.

**Conclusion:** This area lies in the moderate range of capability. Numerous factors reduce its manageability for wilderness and make it less capable than other areas on the forest, however, it will be considered **Capable** for wilderness and will be further evaluated for availability and need.

### **Availability Determination**

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No  
There is low potential for oil and gas occurrence in the area.
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes  
The area supports established summer and winter motorized recreation.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? Yes  
Possible special use conflicts with maintaining/servicing water diversion/impoundments. These structures are in close proximity to the area boundary and may require maintenance by vehicles or heavy machinery.

**Conclusion:** Based on the established motorized recreation in the area, this area has been determined to be **Not Available** for wilderness.



### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Piney Creek roadless area (20,933 acres).

Table C-28. Management prescriptions by alternative for Piney Creek Roadless Area.

<b>Mgmt Rx</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
3.31	218		20,933	20,933	
3.5	10,451	20,933			
5.11	366				
5.12	3,940				
5.13	5,796				
5.4					20,780
5.41	162				153

The following table summarizes the Piney Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-29. Piney Creek roadless acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character					
Acres Not Retaining Roadless Character	20,933	20,933	20,933	20,933	20,933

## Roadless Area BH030 – Little Goose East

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<b>Acres</b>	15,521
<b>Ranger District</b>	Tongue
<b>History</b>	This area was originally part of #02030 Little Goose Roadless Area (37,760 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 15 air miles southwest of Sheridan, Wyoming in the southwest corner of Sheridan County, and the northwest corner of Johnson County. Motorized access is provided by the Kearney Lake Road (FR 320), the Little Goose Road (FR 309), the Little Goose Park Road (FR 314), the Little Goose Peak Road (FR 521), and the Kennwood Road (FR 313). Motorized trails within the area include the Story-Penrose Trail (FT 033), the Kennwood Trail (FT 628), the Stockwell Trail (FT 086), the Penrose Trail (FT 028), and the North Piney Trail (FT 112). Access to FR 320 at the Forest boundary is controlled from private land.
<b>Surroundings</b>	The southern boundary follows North Piney Creek, the Red Grade Road is outside the north boundary, and the Cloud Peak Wilderness is contiguous with the southwest boundary of this roadless area. Piney Creek Roadless Area lies immediately to the southeast.
<b>Physical and biological description</b>	<p>Area elevations range from 6,500 feet near the Forest boundary to 9,358 feet atop Little Goose Peak. The area is characterized by moderately steep mountainous terrain covered by lodgepole pine forests, with Engelmann spruce and subalpine fir at the higher elevations and on moist north-facing slopes. A few scattered parks and meadows are found in the area that contain Idaho fescue, sedges, tufted hairgrass, and alpine timothy. In perennially wet meadows, willows and rushes comprise the vegetation. Small bands of Douglas fir, limber pine, and ponderosa pine are found along the Forest boundary associated with sedimentary substrates. The area is drained by North Piney Creek in the south, and by East Fork of Little Goose Creek and Little Goose Creek in the north. Little Goose Creek forms a deep canyon near the Forest boundary. Annual precipitation ranges from 23 to 28 inches and falls mainly as snow during the period from October through May.</p> <p>Landtype associations consist of granitic breaklands and mountain slopes, and areas of glacial moraines and tertiary terraces. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations. Along the Forest boundary, sedimentary soils formed in materials derived from limestone make up a small percentage of the area.</p>

<b>Features</b>	The area is typical of lodgepole pine-grouse whortleberry habitat type on granitic substrate. Little Goose Peak is a dominant landmark in the area, and near the north boundary there are several steep, narrow canyons. The Stockwell Fire burn area is visible from the valley below the Forest.
<b>Resource Uses</b>	
<b>Vegetation</b>	The area is predominantly forested, with approximately 77% in forested cover types. The dominant cover type is lodgepole pine covering 58% of the area, followed by spruce-fir at 14%. The area is mostly natural in appearance, with the major exception being the presence of motorized trails. The Stockwell Fire burned 2,500 acres in the center of the area in 1996. There are no known occurrences of sensitive species in the area.
<b>Recreation</b>	The majority of recreational use involves camping, hiking, horseback riding, mountain biking, fishing, and hunting. The primary use of this area is in summer by motorized trail users that extends into the fall for big game hunting. North Piney Creek, Little Goose Creek, and East Fork of Little Goose Creek are rated Class III fisheries by the Wyoming Game and Fish Department and support populations of brook, rainbow, and cutthroat trout. Groomed snowmobile trails are located outside the area to the northwest. The majority of the area is rated for ROS as Semi-primitive Motorized, with small areas of Semi-primitive Non-motorized and Primitive in the south.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The area provides spring calving, summer, fall, and critical winter habitat for elk and deer. Several streams support fishable populations of brook, brown, and rainbow trout. The roadless area is located in part of the Big Goose/Piney lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	Due to the concentration of timber in the roadless area, there is relatively small amount of livestock grazing here. The area is contained within the Little Goose and Little Goose Canyon Cattle and Horse Allotments.
<b>Water</b>	This area is located within part of the Little Goose above Big Horn, Little Goose at Big Horn, and North Piney Creek near Story Watersheds. Streams are part of the Goose Creek Municipal Watershed that supplies water to the town of Sheridan and the Veteran's Administration Hospital (Sheridan).
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral potential. There is low potential for oil and gas occurrence along the east boundary.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.

## ROADLESS AREA MANAGEMENT

<b>Fire</b>	<p>The Stockwell Fire, located in the center of the roadless area near Little Goose Peak, burned 2,500 acres in 1996.</p> <p>Fire regimes vary with elevation and vegetation composition, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce –subalpine fir habitat type. This group has a historical fire interval of 100+ years and also experiences stand replacement severity burning.</p>
<b>Other</b>	<p>This roadless area is contiguous with the Cloud Peak Wilderness on the southwest side. Private and Bureau of Land Management lands are adjacent to the Forest boundary on the north and east sides. Cloud Peak Biological Area is adjacent to the southwest side of the roadless area, and follows the approximate Cloud Peak Wilderness boundary. There is a communication site at the top of Little Goose Peak. There are several recreation residence cabins along Little Goose Creek and Penrose Guard Station is found within the area.</p>

Table C-30. Management area acres for Alternative A, Little Goose East Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	326
3.5 Plant and Wildlife Habitat Management	3,774
5.11 Forest Vegetation Emphasis	2,233
5.12 Rangeland Vegetation Emphasis	178
5.13 Forest Products	9,010

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... low

Solitude opportunities are rated low due to the motorized trail use in the area.

Natural and free from disturbance ..... high

The area possesses a high degree of naturalness. Fire has initiated regeneration of lodgepole pine in the area.

Challenge ..... med

The area offers a moderate degree of challenge.

## Primitive and unconfined recreation

Camping.....	med
Fishing .....	med
Hiking .....	high
Backpacking .....	med
Hunting .....	med
Cross-country skiing.....	med
Mountain climbing.....	med

## Environmental and special features

Scientific, educational, or historic values .....	med
Variety and abundance of wildlife.....	med
Scenic and special features .....	med

The environmental and special features are considered moderate for the area, with opportunities to study wildfire ecology and succession in the Stockwell burn area. Scenic features are also considered moderate due to lack of variation in most of the area.

## Manageability-the extent that boundaries:

Are recognizable.....	high
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use.....	med

Some regions of the roadless area that experience motorized use pose a challenge to manageability; however, along the southwest boundary the roadless area is contiguous with Cloud Peak Wilderness. There is an electronic site on Little Goose Peak in the middle of the area.

**Conclusion:** Due to the motorized recreation use, this area's ability to provide solitude and primitive recreation is low. It will be considered **Capable** for wilderness and will be further evaluated for availability and need.

**Availability Determination**

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |

## ROADLESS AREA MANAGEMENT

5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes

The area supports summer and winter motorized recreation.

6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? Yes

Possible conflicts with maintaining/servicing communication site.

**Conclusion:** Based on the motorized recreation and the electronic site in the area, this area has been determined to be **Not Available** for wilderness.

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Little Goose East roadless area (15,521 acres).

Table C-31. Management prescriptions by alternative for the Little Goose East Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32	326				
3.31			15,521	15,521	
3.5	3,774	15,472			
4.3		49			
5.11	2,233				
5.12	178				
5.13	9,010				
5.4					15,521

The following table summarizes the Little Goose East roadless area acreage by alternative for the groups shown in Table C-5.

Table C-32. Little Goose East roadless acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	326				
Acres Not Retaining Roadless Character	15,195	15,521	15,521	15,521	15,521

## Roadless Area BH031 – Cloud Peak Contiguous North

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<b>Acres</b>	16, 564 (contained in 2 separate sections: 1,681 acres and 14,883 acres)
<b>Ranger District</b>	Tongue and Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02031 Cloud Peak Contiguous Roadless Area (151,410 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located adjacent to the north end of the Cloud Peak Wilderness in Big Horn and Sheridan Counties, Wyoming. Motorized access is provided by the Big Goose Road (FR 26), Woodchuck Road (FR 226), and Coffeen Park Road (FR 293). The southwest section of the area can be accessed via the Shell Reservoir Road (FR 271) and the Rain Trap Loop Road (FR 224). Numerous trails lead into the area; on the west side, Shell Creek Trail (FT 0570 and Mail Creek Trail (FT 817); on the east side, Coney Creek Trail (FT 021) and Antler Creek Trail (FT 405), and on the north, Rock Chuck Trail (FT 418).
<b>Surroundings</b>	This roadless area wraps around the north end of the Cloud Peak Wilderness. It is bounded on the southwest by the Adelaide Lake-Shell Reservoir area, on the south by Cloud Peak Wilderness, and on the north by roads. Walker Prairie Roadless Area is located to the northeast.
<b>Physical and biological description</b>	Area elevations range from 7,800 feet on the west side near Ranger Creek Campground to 10,828 feet atop Dome Peak. The area is characterized by subalpine forests bordered by the granitic mountain peaks of the Cloud Peak Wilderness. Vegetation is predominantly forested, with a mixture of lodgepole pine, Engelmann spruce and subalpine fir stands, and an understory of grouse whortleberry. Small parks and openings occur throughout the area, featuring Idaho fescue, big sagebrush, silky lupine, tufted hairgrass, and alpine timothy. In flood plains and alluvial depressions, willows and rushes are present in the wetter areas. The area straddles the Big Horn Mountain divide, and streams along the west portion of the area drain into the Bighorn River via Shell Creek, while the east portion drains into the Tongue River via Big Goose Creek. Annual precipitation ranges from 28 to 33 inches, and falls mainly as snow during October through May.
<b>Physical and biological description</b>	Landtype associations consist of granitic mountain slopes and areas of glacial moraines and tertiary terraces. The area near Dome Peak features alpine mountain slopes and ridges with sparsely vegetated soils. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include the high rock fragments content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.

## ROADLESS AREA MANAGEMENT

**Features** Views of the granite peaks in the Cloud Peak Wilderness and into the Big Horn basin are the key visual features in the area. Cool, subalpine forests of lodgepole pine, Engelmann spruce, subalpine fir, and grouse whortleberry complement the area.

### Resource Uses

**Vegetation** Vegetation is comprised of 52% lodgepole pine, 30% spruce-fir, 12% grass/forb, 2% sagebrush, and the remainder is non-vegetated. Harvest units from the Pussyfoot Timber Sale (1983) are located inside the west boundary. In the same vicinity, there is an area of localized “blowdown” from 1979 that was seeded with lodgepole pine. Although there are no known occurrences of sensitive species in the area, the east edge of the area is contained within the Big Goose Creek “Biological Area”. Biological areas have been designated by the WNDD for important concentrations of rare taxa and their representative communities. The Big Goose Creek biological area is ranked by WYNDD as B4: moderate significance area.

**Recreation** The majority of recreational use involves hiking, horseback riding, fishing, and hunting activities. Numerous trails are scattered throughout the area, many of which access the Cloud Peak Wilderness. Several trails are open to motorcycle and snowmobile use, and the Antler Creek Trail (FT 110) is open to ATV use. There is light to moderate big game hunting pressure in the area, particularly near roads. Snowmobiling is popular along groomed trails that skirt the outer perimeter of the unit along Big Goose Road, Wood Chuck Pass, and Crooked Creek Hill. There are no cross country ski trails in the area. Several special use permits are authorized for summer trail rides and fall hunting. The ROS rating is Semi-primitive Non-motorized and Semi-primitive Motorized.

**Wildlife** Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, pikas, beaver, ground squirrels, and grouse. The area includes summer habitat for deer, elk and moose, and elk parturition occurs in the Moraine Creek drainage. A number of streams support fishable populations of brook, brown, and rainbow trout. The water vole (*Microtus richardsoni*), a Forest sensitive species, has been observed south of Stull Lakes. Other sensitive species found in the area are the Three-toed woodpecker (*Picoides tridactylus*) and the Wood frog (*Rana sylvatica*). The Wood frog that is found in the Bighorn Mountains is morphologically distinct from other populations, although it is not yet recognized as a different taxon. These sensitive species are located in the Big Goose Creek “Biological Area” – areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. The roadless area is contained within the South Tongue/Shell and Big Goose/Piney lynx habitat units. The Canada lynx (*Lynx canadensis*) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.



<b>Range</b>	The area is contained within numerous cattle and sheep allotments. There are fences and other structural range improvements in and adjacent to the area.
<b>Water</b>	The area is located within three municipal watersheds: Shell, Tongue River, and Goose Creek, which supply water to the communities of Shell, Dayton, Ranchester, Sheridan, and the Veteran's Administration Medical Center (Sheridan). Along the east boundary, Twin Lakes # 1 and #2 are reservoirs that are part of the City of Sheridan's water supply. There are numerous reservoirs, diversions, and ditches outside the east boundary of the area in the Goose Creek watershed. Featured streams in the area are Moraine Creek, Willet Creek, Coney Creek, Porcupine Creek, and East Fork Big Goose Creek.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	There are no wildfires on record for this area.  Fire regimes vary with vegetation composition and elevation, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce-subalpine fir habitat type. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning.
<b>Other</b>	Two blocks of private property are located along the east boundary: one centered on Dome Lake and another at Bighorn Reservoir. The Dome Mountain radio site is located along the north boundary, and access to that site is the reason for the narrow neck extending from Woodchuck Pass to Dome Peak. There are several developed recreation sites outside the area boundary. This roadless area overlaps part of the Big Goose Creek Biological Area. Cloud Peak Biological Area is adjacent, and follows the approximate wilderness boundary. The Cloud Peak Wilderness is contiguous with the south boundary of this roadless area.

Table C-33. Management area acres for Alternative A, Cloud Peak Contiguous North Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	5,757
3.31 Backcountry Recreation Motorized	1,913
3.5 Plant and Wildlife Habitat Management	3,400
4.2 Scenery	408
5.11 Forest Vegetation Emphasis	1,566

## ROADLESS AREA MANAGEMENT

Alternative A Management Area	Acres
5.12 Rangeland Vegetation Emphasis	3,467
5.13 Forest Products	21
8.1 Water Impoundments	31

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high

Solitude opportunities are rated high in the area. The south side of the area is bordered by the Cloud Peak Wilderness.

Natural and free from disturbance ..... high

The area possesses a high degree of naturalness. Use of roads and snowmobile trails near the area boundary causes disturbance.

Challenge ..... med

The area offers a moderate degree of challenge due to unvaried terrain with limited access.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... med

Hiking ..... high

Backpacking..... high

Hunting ..... high

Cross-country skiing..... med

Mountain climbing..... low

#### Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife ..... high

Scenic and special features ..... high

This area offers a high level of opportunity for outdoor education and environmental study. There are opportunities to study subalpine and alpine ecosystems, glacier-affected land forms, and rare plants and animals in the Big Goose Creek Biological Area. The scenic features are rated high, with glacial streams, high elevations wetlands, and views of the granite peaks of the Cloud Peak Wilderness.

Manageability-the extent that boundaries:

Are recognizable ..... med  
 Conform with terrain ..... low  
 Are manageable ..... low  
 Constitute a barrier to prohibited use ..... low

Manageability of the area is considered low. A majority of the east boundary is indistinct, without good topographic breaks. A narrow neck is created near the Dome Electronic Site. This roadless area wraps around the north end of the Cloud Peak Wilderness.

**Conclusion:** The high degree of solitude and naturalness is offset by the area's small size and low level of manageability. It is still considered **Capable** for wilderness and will be further evaluated for availability and need.

### **Availability Determination**

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? No  
 The area supports summer and winter motorized recreation - snowmobiling in winter, and some motorcycle/ATV use of trails.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

Possible conflicts with maintaining/servicing (Dome Mountain) communication site. The narrow neck created by the communication site and the irregular boundary on the east side make the area difficult to manage.

**Conclusion:** Based on the area's low level of manageability and the presence of the communication site, this area has been determined to be **Not Available** for wilderness.

### **Environmental Consequences**

The following table shows the management prescription allocations by alternative for the Cloud Peak Contiguous North roadless area (16,564 acres).

## ROADLESS AREA MANAGEMENT

Table C-34. Management prescriptions by alternative for the Cloud Peak Contiguous North Roadless Area.

<b>Mgmt Rx</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
1.32	5,758	5,560	5,560		2,554
1.33		3,700	3,730		916
3.31	1,913	6,140	7,264	2,306	874
3.5	3,400				
4.2	408				
4.3		1,154	10	2,327	
5.11	1,566	10		11,931	617
5.12	3,467				
5.13	21				2,235
5.4					3,625
5.5					5,743
8.1	31				

The following table summarizes the Cloud Peak Contiguous North roadless area acreage by alternative for the groups shown in Table C-5.

Table C-35. Cloud Peak Contiguous North roadless acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character	5,757	9,260	9,290		3,470
Acres Not Retaining Roadless Character	10,807	7,304	7,274	16,564	13,094

## Roadless Area BH032 – Rock Creek

<b>Acres</b>	42,377
<b>Ranger District</b>	Powder River and Tongue
<b>History</b>	This area was originally part of #02032 Rock Creek Roadless Area (51,200 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 8 air miles northwest of Buffalo, Wyoming in the northwest corner of Johnson County. Motorized access is provided in the north via the Willow Park Reservoir Road (FR 319) and along the south boundary by US Highway 16, the Cull Watt Park Road (FR 366), the Rock Creek Road (FR 396), and the Triangle Park Road (FR 365). There are numerous non-motorized trails in the area including the North Rock Creek Trail (FT 040), the Middle Rock Creek Trail (FT 043), the Firebox Trail (FT 549), Balm of Gilead Trail (FT 039), and the French Creek Trail (FT 042). The Bear Gulch Trail (FT 084) is authorized for motorized use, but receives very little use of any kind.
<b>Surroundings</b>	The Forest boundary forms the east boundary of the area, South Rock Creek and roads are along the south boundary. Cloud Peak Wilderness is contiguous with the west side of this roadless area and the Willow Park Road (FR 319) runs along the north boundary. Piney Creek Roadless Area is located immediately to the north.
<b>Physical and biological description</b>	Area elevations range from 6,000 feet near the Forest boundary to 10,980 feet along the wilderness area boundary. The area lies on the eastern face of the Big Horn range, rising abruptly from the Powder River basin to mid-elevations ridges, and upward to alpine tundra at the higher elevations adjacent to the Cloud Peak Wilderness. Small amounts of ponderosa pine are located along the east edge of the area, but the remainder consists of continuous stands of lodgepole pine, with Engelmann spruce and subalpine fir at the higher elevations and on moist north-facing slopes. A few small parks and meadows are scattered throughout the forest that contain Idaho fescue, sedges, tufted hairgrass, and alpine timothy. In perennially wet meadows, willows and rushes comprise the vegetation. Near the wilderness boundary at elevations approaching 10,000 feet, sparsely vegetated soils of alpine plant community are found along alpine ridges and glacial trough valleys. This glaciated region of the roadless area features moraines, potholes, lakes, and several large reservoirs that function as water impoundments and diversions for the basin area. Annual precipitation ranges from 18 to 28 inches, and the majority falls as snow during the period from October through May.

## ROADLESS AREA MANAGEMENT

<b>Physical and biological description</b>	Landtype associations consist of granitic breaklands and mountain slopes, and areas of glacial moraines and tertiary terraces. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations. Along the Forest boundary, sedimentary soils formed from limestone, sandstone, and shale make up a small percentage of the area.
<b>Features</b>	The Rock Creek area is one of the most primitive areas on the Bighorn National Forest outside of wilderness. Largely unmodified and natural in appearance, it features areas of pristine lodgepole pine/grouse whortleberry habitat, with small patches of Engelmann spruce and subalpine fir complementing the pine forests. The many hiking/horseback trails offer opportunities for solitude in a wilderness setting. Vistas of the high alpine peaks in the Cloud Peak Wilderness and down into the basin are seen from area boundaries.
<b>Resource Uses</b>	
<b>Vegetation</b>	Vegetation is comprised of 68% lodgepole pine, 17% spruce-fir, 8% ponderosa pine, 3% aspen, and the remainder is grassland. Pheasant Creek is a potential Research Natural Area featuring a large area of undisturbed lodgepole pine/grouse whortleberry habitat type. The Rock Creek drainage and the area near the town of Story are experiencing high mortality in pine forests due to mountain pine beetle infestations. Story is categorized as a wildland-urban interface community with enhanced risk for wildfire in ponderosa pine forests. Treatment of conifer stands with prescribed fire, fuel break construction in association with prescribed fire, and mechanical thinning is planned to reduce the risk of catastrophic fire in the Story area.
<b>Recreation</b>	The majority of recreational use involves camping, hiking, horseback riding, mountain biking, fishing, and hunting. Two trails, the Middle Rock Creek Trail (FT 043) and the Elk Lake Trail (FT 219) access the Cloud Peak Wilderness. South Fork Rock Creek is rated as Class III fishery by the Wyoming Game and Fish Department and hosts populations of brook, rainbow, and brown trout. There are no groomed snowmobile or cross-country ski trails in the area. Big game hunting pressure is light to moderate.

<b>Recreation</b>	There are several special use permits authorized for summer recreation and fall hunting activities. Paradise Guest Ranch and the HF Bar are two private ranches located outside the area boundary that conduct guided trail rides/pack trips in Rock Creek area during the summer and fall months. The southeast portion of the roadless area is closed to off-road motorized use year round. The remainder of the area is closed to off-road motorized use except snowmobiles between November 16 and May 15. The ROS classes consist of Primitive in the core area, with Semi-primitive Non-motorized and Semi-primitive Motorized near the boundaries. Access to the Willow Park Reservoir Road (FR 319) is controlled from private and state lands. The road is restricted to vehicle use for maintenance and service of Willow Park Reservoir.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, pikas, ground squirrels, and grouse. The area provides spring calving, summer, fall, and critical winter habitat for elk and deer. Several streams support fishable populations of brook, brown, and rainbow trout. The pine marten ( <i>Martes americana</i> ), a Forest sensitive species, has been regularly documented in the lakes and reservoirs region outside the west boundary of the area. The roadless area is located in part of the Kearney/Rock Creek lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act. The Bud Love Big Game Winter Range is a State of Wyoming unit adjacent to the east boundary of the roadless area.
<b>Range</b>	Due to the concentration of timber in the roadless area, there is a relatively small amount of livestock grazing here. Hepp cow camp is located at Willow Park Reservoir. The area is contained within the Little Piney, Willow Park, and Rock Creek Cattle and Horse Allotments.
<b>Water</b>	The area is important hydrologically as a collection and storage area for accumulated snow and the drainages are used as water transportation ways. Water released from Kearney Lake Reservoir flows down Kearney Creek into South Piney Creek. Water from Cloud Peak Reservoir is released into South Piney Creek, which flows into Willow Park Reservoir. This water then flows down South Piney Creek or is diverted into the Rock Creek and Piney diversion ditch, which transfers water into the North Fork of Rock Creek. These two streams flow large volumes of water to the valley below during the irrigation season, and they can be difficult to cross during periods of high reservoir water release. South Piney Creek provides a year-round flow of water for the Story Fish Hatchery (Wyoming Game and Fish) on the east boundary of this area. Under some Forest plan alternatives, a length of South Rock Creek is recommended for Wild designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress. The majority of the roadless area is located within the North, Middle, South Forks of Rock Creek Watershed. Piney Creek, South Piney Creek above Willow, and French Creek Watersheds are also featured here.

## ROADLESS AREA MANAGEMENT

<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral potential. There is low to moderate potential for oil and gas occurrence along the east boundary.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	<p>Fire has been the most dominant disturbance factor in this landscape over the long term. Much of the area features even-aged pole sized lodgepole pine stands, a direct result of large scale stand-replacing fires that occurred during the late 1800s. More recent fires in the area include the Rock Creek Fire that consumed 930 acres in 1919. Two small unnamed fires burned in the region.</p> <p>Fire regimes vary with elevation and vegetation composition, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce –subalpine fir habitat type. This group has a historical fire interval of 100+ years and also experiences stand replacement severity burning.</p>
<b>Other</b>	Private land and state land are located adjacent to the Forest boundary on the east side. Access is controlled to FR 319 at the Forest boundary from private and state lands. The Bud Love Big Game Winter Range (State of Wyoming) is adjacent to the east boundary of the roadless area. Cloud Peak Biological Area is adjacent to the west side of the roadless area, and follows the approximate wilderness boundary. Pheasant Creek is a potential Research Natural Area featuring a large area of pristine lodgepole pine/grouse whortleberry habitat type. Several plots of private land, including Paradise Guest Ranch, are within a short distance of the south boundary of this roadless area.

Table C-36. Management area acres in Alternative A, Rock Creek Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	9,491
3.31 Backcountry Recreation-Motorized	2,322
3.5 Plant and Wildlife Habitat Management	6,572
5.11 Forest Vegetation Emphasis	7,598
5.12 Rangeland Vegetation Emphasis	2,532
5.13 Forest Products	5,938
5.41 Deer and Elk Winter Range	7,924

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)



## Primary Elements

Opportunity for solitude ..... high

Solitude opportunities are rated high.

Natural and free from disturbance ..... high

The area possesses a high degree of naturalness that remains generally unaltered by human influences. The remote and wild character of this area is the primary attraction. Some disturbance is created near motorized trails.

Challenge ..... high

The area offers a high degree of challenge due to the varied terrain, steep trails, and remoteness of the site. Navigation through dense timber is difficult.

## Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking ..... high

Hunting ..... high

Cross-country skiing..... med

Mountain climbing..... med

## Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife..... high

Scenic and special features ..... high

This area offers a high level of opportunity for outdoor education and environmental study. This roadless area contains the potential Pheasant Creek Research Natural Area. The scenic features are rated high, with glacial streams, high elevations wetlands, rocky outcrops, and views into the Cloud Peak Wilderness and surrounding Powder River basin.

## Manageability-the extent that boundaries:

Are recognizable..... high

Conform with terrain ..... med

Are manageable ..... high

Constitute a barrier to prohibited use..... high

Manageability of the area is considered high in most of the area, but is

## ROADLESS AREA MANAGEMENT

somewhat reduced in the north due to a privately controlled access road. The east boundary adjoins state and private lands and the area is contiguous to the Cloud Peak Wilderness along the western boundary.

**Conclusion:** The area's high degree of solitude and naturalness, its large size and primitive recreation opportunities combine to make this an excellent example of a roadless area. It will be considered **Capable** for wilderness and will be further evaluated for availability and need.

### Availability Determination

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No  
There is low potential for oil and gas occurrence in the area.
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? No  
The area supports summer and winter motorized recreation - snowmobiling in winter, and some motorcycle/ATV use of trails.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? Yes  
Possible special use conflicts with maintaining/servicing water diversion/impoundments. These structures are in close proximity to the area boundary and may require maintenance by vehicles or heavy machinery.

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### Need Determination

**Nearby Wilderness:** Cloud Peak Wilderness is contiguous with the west boundary of Rock Creek. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness.

**Areas of Biological Interest:** Pheasant Creek is a potential Research Natural Area located entirely within this roadless area featuring a large area of undisturbed lodgepole pine/grouse whortleberry habitat type.

**Wildlife Needs:** The WYNDD contains records of the pine marten (*Martes americana*), a Forest Service sensitive species, adjacent to the roadless area boundary on the west side. No species have been identified in the Rock Creek area that require a wilderness environment for survival.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. The Rock Creek Roadless Area is composed of mainly mid-elevation ecosystems. The area's remote setting of pristine forests of ponderosa and lodgepole pine drained by snowmelt streams, is not well-represented in the Wyoming wilderness system.

The following table displays percentage of the cover types represented in this roadless area.

Table C-37. Percent of cover types in the Rock Creek Roadless Area.

Cover Type	Acres	Percent
Forb		
Grass	1,373	3%
Bare	8	-
Rock	346	1%
Shrub		
Sagebrush	109	-
Willow	39	-
Aspen	1,104	3%
Cottonwood/willow	75	-
Douglas fir	184	-
Limber pine		
Lodgepole pine	28,624	68%
Ponderosa pine	3,461	8%
Pinyon-juniper		
Spruce-fir	7,054	17%

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-38. Limited representation cover types in the Rock Creek Roadless Area.

Cover Type	Acres in Rock Creek Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine	3,461	42%
Douglas fir	184	
Lodgepole pine	28,624	47%
Big sagebrush	109	1%
Pinyon-juniper		
Aspen	1,104	40%

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Cover Type	Acres in Rock Creek Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Grass	1,373	13%
Limber pine		

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Rock Creek roadless area (42,377 acres).

Table C-39. Management prescriptions by alternative in the Rock Creek Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.2			20,326		
1.31		20,353		18,461	
1.32	9,491				4,280
1.33		350			
1.5		2,501	2,976		
2.2		9,015	9,013	9,015	
3.31	2,322		2,464	3,553	
3.4		473			
3.5	6,572	1,167			
4.2		316	316	316	
4.3		927			
5.11	7,598				254
5.12	2,532				
5.13	5,938				694
5.4					30,949
5.41	7,924	7,275	7,282	11,032	6,200

The following table summarizes the Rock Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-40. Management prescriptions by alternative in the Rock Creek Roadless Area.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	9,491	32,219	32,315	27,476	4,280
Acres Not Retaining Roadless Character	32,886	10,158	10,062	14,901	38,097

## Roadless Area BH033 – Grommund Creek

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<b>Acres</b>	5,068
<b>Ranger District</b>	Powder River
<b>History</b>	This area was originally part of the #02033 Grommund Creek Roadless Area (12,800 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 10 air miles southwest of Buffalo, Wyoming in Johnson County. Primary access to the area is provided by US Highway 16, the Grommund Road (FR 372), the Elgin Park Road (FR 460), Little Sourdough Road (FR 472213), and the Tie Hack Road (FR 21). Trails that access the area include the Tie Hack Trail (FT 107), the Brush Creek Trail (FT 217), the Saddle Crossing Trail (FT 408), and the Grommund Point Trail (FT 407).
<b>Surroundings</b>	The Forest boundary forms the east boundary of the area, Clear Creek and US 16 bound the north, and the south is bounded by roads and the Elgin Timber Sale. Rock Creek Roadless Area lies north of this area.
<b>Physical and biological description</b>	<p>Area elevations range from 6,400 feet near the Forest boundary to 7,834 feet above Brush Creek. The area lies on the eastern face of the Big Horn range, rising abruptly from the Powder River basin into a series of steep hills that crest into a broad rolling upland. Nearly homogenous forests of lodgepole pine are interspersed with many small parks and openings that contain Idaho fescue, silky lupine, tufted hairgrass, and various sedges. Several creeks drain the area to the east, some of which form steep canyons in the drainage. Narrow bands of ponderosa pine –grouse whortleberry habitat extend on the dryer south-facing slopes below Clear Creek. The area lies in the rain shadow of Cloud Peak and receives slightly less precipitation than like elevation areas further to the north in the Big Horn Mountains; approximately 18-23 inches annually.</p> <p>Landtype associations feature Precambrian granite formations composed of gentle to steep mountain slopes and breaklands. The soils in the area have formed in residuum and alluvium derived from granite and gneiss. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include areas of rock outcrop, steep slopes, and the high rock fragment content of the soils.</p>
<b>Features</b>	The area is quite typical of the lodgepole forest associated with granitic substrate on the Bighorn National Forest. The uniform composition of the area is broken only by small areas of rock outcrop and a few steep canyon drainages.

## ROADLESS AREA MANAGEMENT

### Resource Uses

<b>Vegetation</b>	Vegetation is comprised of 82% lodgepole pine, 8% ponderosa pine, 3% aspen, and 7% grass. Prescribed fire has been utilized in the ponderosa pine habitat type to reestablish fire's natural ecological role and resulting vegetation conditions. A few aspen stands have also been treated with prescribed fire to stimulate regeneration. The Elgin Timber Sale (1990) harvest units are located outside the area near the south boundary. There are no known occurrences of sensitive species in the area.
<b>Recreation</b>	The majority of recreational use involves hiking, horseback riding, fishing, and hunting. The Tie Hack Trail (FT 107) is a nonmotorized trail that traverses from the Pines Lodge to Tie Hack Reservoir. There are also several motorized trails (Brush Creek Trail FT 217 and Saddle Crossing Trail FT 408) in the area. A groomed snowmobile trail is located outside the area boundary west of US 16. There is moderate big game hunting pressure in the area, particularly near roads. Numerous developed recreation sites including lodges, recreation residences, campgrounds, and picnic areas are found outside the roadless area along US Highway 16. The majority of the area is rated for ROS as Semi-primitive Non-motorized, with a band of Semi-primitive Motorized along the Brush Creek drainage.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The area provides summer and fall habitat for deer and elk, with areas surrounding the perimeter suitable habitat for crucial winter and year-long range. Several streams support fishable populations of brook, brown, and rainbow trout. The Northern goshawk ( <i>Accipiter gentilis</i> ), a Forest sensitive species, has been documented north of Tie Hack Reservoir. There is a historic sighting of the water vole, ( <i>Microtus richardsoni</i> ), on Grouse Mountain that dates back to 1948.
<b>Range</b>	The area is contained within the Clear Creek and Grommund Creek Cattle and Horse Allotments. The pastures are administered by the Clear/Crazy/Powder Allotment Management Plan. Typical range improvements such as fences and cow camps are located in and adjacent to the area.
<b>Water</b>	The roadless area is contained within the Middle Fork Clear Creek and Clear Creek Watersheds. Principal features in the area are Middle Clear Creek, South Clear Creek, Clear Creek, Grommund Creek, and Brush Creek. Streams are in a natural free-flowing state and are located in the Clear Creek Municipal Watershed, which supplies water to the City of Buffalo.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral potential. There is low potential for oil and gas occurrence here.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.

- Fire** An unnamed fire consumed 5,000 acres along the northeast boundary in 1930. Fire regimes vary with vegetation composition and elevation, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement.
- Other** Private land is located adjacent to the Forest boundary on the east side.

Table C-41. Management area acres for Alternative A, Grommund Creek Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	1,927
3.31 Backcountry Recreation-Motorized	146
3.5 Plant and Wildlife Habitat Management	1,373
5.11 Forest Vegetation Emphasis	326
5.12 Rangeland Vegetation Emphasis	983
5.13 Forest Products	313

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... med

Solitude opportunities are rated moderate. Multiple access points and ATV use along motorized trails in and surrounding area boundaries inhibits a primitive, isolated experience.

Natural and free from disturbance ..... med

The area possesses a high degree of naturalness, with pine forests, wet meadows, and brushy drainages. Use of motorized trails creates disturbance.

Challenge ..... med

The area offers a moderate degree of challenge due to the dense vegetation, particularly in draws.

#### Primitive and unconfined recreation

Camping..... med

Fishing ..... med

Hiking ..... med

## ROADLESS AREA MANAGEMENT

Backpacking.....	med
Hunting .....	high
Skiing .....	med
Mountain climbing.....	low

### Environmental and special features

Scientific, educational, or historic values .....	low
Variety and abundance of wildlife .....	high
Scenic and special features .....	low

This area offers a low level of opportunity for environmental education.  
The scenic features are rated low due to lack of unique features.

### Manageability-the extent that boundaries:

Are recognizable .....	med
Conform with terrain .....	med
Are manageable .....	low
Constitute a barrier to prohibited use.....	low

Manageability of the area is considered low. Some of the boundary lines  
are indistinct without good topographic breaks.

**Conclusion:** The area exhibits a high degree of naturalness, but is otherwise limited by its primitive recreation opportunities and low level of manageability. It will still be considered **Capable** for wilderness and will be further evaluated for availability and need.

## Availability Determination

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No  
There is low potential for oil and gas occurrence in the area.
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes  
The area supports established summer motorized recreation use. There is a proposed ATV loop trail system.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No



**Conclusion:** The small size of the area combined with the established motorized use preclude it from wilderness designation; therefore it has been determined to be **Not Available** for wilderness.

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Grommund Creek roadless area (5,068 acres).

Table C-42. Management area prescriptions by alternative for the Grommund Creek Roadless Area.

<b>Mgmt Rx</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
1.31					298
1.33	1,926			2,035	1,637
3.31	146				146
3.5	1,373	4,530	4,609		
4.2		430	430	430	
5.11	326		30	1,992	1,563
5.12	983			611	
5.13	313	108			
5.4					847
5.5					577

The following table summarizes the Grommund Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-43. Grommund Creek Roadless Area acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character	1,926			2,035	1,935
Acres Not Retaining Roadless Character	3,142	5,068	5,068	3,033	3,133

## Roadless Area BH036 – Hazelton Peaks

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<b>Acres</b>	7,230
<b>Ranger District</b>	Powder River
<b>History</b>	This area was originally part of the #02036 Hazelton Peaks Roadless Area (10,500 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 24 miles southwest of Buffalo, Wyoming in Johnson County. Motorized access to the area is available through US Highway 16, the Hazelton Road (Johnson County Road 3), the North Fork Powder River Road (FR 29), and the Munkres Pass Road (FR 448). Although there are no developed trails in the area, there are numerous undesigned hiking opportunities.
<b>Surroundings</b>	This roadless area is located in the southeast corner of the Bighorn National Forest. Munkres Pass and US Highway 16 are located to the north of the area and the Hazelton Road and Lower Doyle Creek Campground are situated along the southeast boundary.
<b>Physical and biological description</b>	<p>Area elevations range from 8,200 feet along Doyle Creek to 10,534 feet at the top of Hazelton Peak. The area is dominated by Hesse Mountain, Hazelton Pyramid, and Hazelton Peak, which comprise the southern-most peaks of the Big Horn range. The peaks are located at the edge of the uplifted granitic core of the Big Horns, and are characterized by rocky summits above timberline with little or no vegetation except for small amounts of alpine plant community and krummholtz. The mountainsides and ridges surrounding the three peaks are forested with lodgepole pine, Engelmann spruce, subalpine fir, and an understory of grouse whortleberry. Small parks and openings in timbered areas and in saddles between the peaks feature Idaho fescue, big sagebrush, silky lupine, tufted hairgrass, sedges, and alpine timothy. In flood plains and alluvial depressions, willows and rushes are present in the wetter areas. The west side of the area forms the headwaters of the North Fork of the Powder River, while the Middle Fork of Crazy Woman Creek drains the east side. Annual precipitation ranges from 28 to 33 inches, and falls mainly as snow during the period from October through May.</p> <p>This area is located entirely on granitic landtype associations. The granitic and alpine mountain slopes contain soils that have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.</p>
<b>Features</b>	The area contains highly varied visual resources with the three dominant peaks sloping into forested benches and valley below. Views from the peaks overlook the surrounding forest and private lands to the south.

## Resource Uses

<b>Vegetation</b>	Vegetation composition, structure, and function are within the historic range of variability. Vegetation is comprised of 43% spruce-fir, 39% lodgepole pine, 7% grass, and the remainder is non-vegetated. The area contains some of the oldest conifer stands in the Big Horn Mountains, where mature conifers, large snags, and multiple canopies form late-successional habitat. The moist riparian areas support diverse willow, moss, and forb communities. Harsh granite slopes at the top of the peaks feature the alpine plant community and krummholtz. Logging has occurred outside the area boundary in several locations. The roadless area is located within the Powder River Pass-Hazelton Peaks “Biological Area” – areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. There are no known occurrences of sensitive species in the area. This biological area is ranked by WYNDD as B3: high significance area.
<b>Recreation</b>	The area receives light recreational use in the form of hiking, horseback riding, fishing, and hunting. The area is used during fall archery and rifle seasons, and in the summer for hiking. Streams surrounding the roadless area are popular for fishing – the Powder River and Doyle Creek support populations of brook, brown, and rainbow trout. Snowmobiling occurs along groomed trails outside the north boundary of the area along US Highway 16. Special use permits are authorized for fall hunting. Lower Doyle Creek Campground is located outside the area boundary, near the southeast corner of the unit. The majority of the area has an emphasis of Semi-primitive Non-motorized recreation, with Semi-primitive Motorized and Roaded Natural near the area boundaries.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, pikas, beaver, ground squirrels, and grouse. The area provides summer habitat for deer and elk. A number of streams support fishable populations of brook, brown, and rainbow trout. The pine marten ( <i>Martes americana</i> ), a Forest sensitive species, has been regularly documented in the area near Munkres Pass. Another Forest sensitive species, the Three-toed woodpecker ( <i>Picoides tridactylus</i> ), has been observed at a breeding site along the west boundary of the area.
<b>Range</b>	The area is contained within the Powder River, Poison Creek and Doyle Creek Cattle and Horse Allotments. Sheep are also grazed in the Hazelton Sheep and Goat Allotment. The various allotments are administered by the Clear/Crazy Allotment Management Plan. Typical range improvements such as fences are found in and adjacent to the area.
<b>Water</b>	The roadless area is contained within the North Fork Powder River, Middle Fork of Crazy Woman, and the North Fork of Crazy Woman watersheds. Streams are in natural free-flowing state and are not located within a municipal watershed. The area is important hydrologically as a collection and storage area for accumulated snow.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.

## ROADLESS AREA MANAGEMENT

<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in the area.
<b>Fire</b>	There are no wildfires on record for the area. Fire regimes vary with vegetation composition and elevation, with the majority of the area in the Engelmann spruce-subalpine fir habitat type. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. The other major fire regime in the area is in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement.
<b>Other</b>	The roadless is located within the Powder River Pass-Hazelton Peaks “Biological Area” - areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. A plot of private land is located approximately one mile from the southwest boundary of the area.

Table C-46. Management area acres for Alternative A, Hazelton Peaks Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	885
3.5 Plant and Wildlife Habitat Management	2,227
5.11 Forest Vegetation Emphasis	1,797
5.12 Rangeland Vegetation Emphasis	1,094
5.13 Forest Products	1,227

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high

Solitude opportunities are rated high due to limited access.

Natural and free from disturbance ..... med

The area offers a high degree of naturalness within the area boundary, but the viewshed is moderate due to the views of area roads and timber harvest units.

Challenge ..... med

Most of the area offers a moderate degree of challenge. Atop the Hazelton Peaks, an alpine environment with harsh climate and exposed rocky slopes of granite prevails.

#### Primitive and unconfined recreation

Camping..... med

Fishing ..... low

Hiking .....	high
Backpacking .....	med
Hunting .....	med
Cross-country skiing.....	low
Mountain climbing.....	med
Environmental and special features	
Scientific, educational, or historic values .....	high
Variety and abundance of wildlife.....	high
Scenic and special features .....	med

This area offers a high level of opportunity for environmental study. There are opportunities to study subalpine and alpine ecosystems and rare plants in the Powder River-Hazelton Peaks Biological Area. This area includes some of the oldest and largest conifer stands in the Bighorns.

Manageability-the extent that boundaries:

Are recognizable.....	low
Conform with terrain .....	low
Are manageable .....	low
Constitute a barrier to prohibited use.....	low

Manageability of the area is considered low. The boundary lines are indistinct without good topographic breaks. The area is not contiguous with the Cloud Peak Wilderness.

**Conclusion:** The area contains some unique environmental features, but its low level of manageability, limited primitive recreation opportunities, and island-like character surrounded by a roaded and developed landscape limits its potential for wilderness designation. It will be considered **Not Capable** for wilderness.

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Hazelton Peaks roadless area (7,230 acres).

Table C-44. Management area prescriptions by alternative for the Hazelton Peaks Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32	885		6,958		470
3.5	2,227	7,038	45	6,310	

## ROADLESS AREA MANAGEMENT

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
5.11	1,797	67	227	880	
5.12	1,094				
5.13	1,227	125		40	2,136
5.4					4,624

The following table summarizes the Hazelton Peaks roadless area acreage by alternative for the groups shown in Table C-5.

Table C-45. Hazelton Peaks Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	885		6,957		470
Acres Not Retaining Roadless Character	6,345	7,230	273	7,230	6,760

## Roadless Area BH040 – Little Goose West

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<b>Acres</b>	3,154
<b>Ranger District</b>	Powder River
<b>History</b>	This area was originally part of #02030 Little Goose Roadless Area (37,760 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 17 air miles southwest of Sheridan, Wyoming in the southwest corner of Sheridan County, and the northwest corner of Johnson County. Primary access is provided by the Red Grade Road (FR 26/County Road 339), the Little Goose Road (FR 314), and the Cross Creek Lakes Road (FR 289). The Bishop Mine Trail (FT 624) and East Fork Cutoff Trail (FT 623) are motorized trails in the area.
<b>Surroundings</b>	Private land surrounding Bighorn Reservoir is along the west boundary of the roadless area, the East Fork of Little Goose Creek bounds the east side, and Forest Road 290 is along the north boundary. The Cloud Peak Wilderness is contiguous with the south boundary of the roadless area.
<b>Physical and biological description</b>	<p>Area elevations range from 7,600 feet along the West Fork of Little Goose Creek to 9,400 feet at the wilderness area boundary. The area is characterized by rolling to moderately steep mountainous terrain and homogenous stands of single story even-aged lodgepole pine forests. Engelmann spruce and subalpine fir stands are found along creek drainages and moist north-facing slopes. There are a few small grassland meadows in the area that contain Idaho fescue and sedges. In perennially wet meadows, willows and rushes comprise the vegetation. Along the west boundary, there is a glaciated region where moraines, potholes, lakes, and several large reservoirs function as water impoundments and diversions for the basin area. Annual precipitation ranges from 23 to 28 inches and falls mainly as snow during the period from October through May.</p> <p>Landtype associations consist of granitic mountain slopes and areas of glacial moraines and tertiary terraces. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.</p>
<b>Features</b>	The area is small but contiguous to the Cloud Peak Wilderness on the south boundary. Trails through lodgepole forests lead to the Cloud Peak Wilderness.

## Resource Uses

<b>Vegetation</b>	Vegetation is nearly entirely forested, with little diversity. Eighty-one percent (81%) of the area is comprised of lodgepole pine and 19% is spruce-fir habitat type. The area is in a natural condition, dominated by even-aged single story lodgepole pine. Although there are no known occurrences of sensitive species in the area, the west edge of the area is contained within the Big Goose Creek “Biological Area”. Biological areas have been designated by the WYNDD for important concentrations of rare taxa and their representative communities. The Big Goose Creek biological area is ranked by WYNDD as B4: moderate significance area.
<b>Recreation</b>	The majority of recreational use involves camping, hiking, horseback riding, and hunting. Forest trails 623 and 624 experience frequent use by ATVs. Special use permits are authorized for summer trail rides in the area. There is light big game hunting activity in the fall. The ROS rating is Semi-primitive Motorized for the area.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds, including marmots, beaver, ground squirrels, and grouse. The area provides summer habitat for elk and deer. The roadless area is located in part of the Big Goose/Piney lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	Due to the concentration of timber in the roadless area, there is a relatively small amount of livestock grazing here. The area is contained within the Little Goose Cattle and Horse Allotment.
<b>Water</b>	This area is located within part of the Little Goose above Big Horn Watershed, part of the Goose Creek Municipal Watershed that supplies water to the town of Sheridan and the Veteran’s Administration Hospital (Sheridan).
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	There are no wildfires on record for this area.  Fire regimes vary with elevation and vegetation composition, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce –subalpine fir habitat type. This group has a historical fire interval of 100+ years and also experiences stand replacement severity burning.



**Other** This roadless area is contiguous with the Cloud Peak Wilderness on the south boundary. Cross Creek and Bighorn Reservoirs have privately-owned water rights and are used to store irrigation water. Cloud Peak Biological Area is adjacent to the south side of the roadless area, and follows the approximate wilderness boundary. The area is located within part of the Big Goose Creek Biological Area. Biological areas have been designated by the WYNDD for important concentrations of rare taxa and their representative communities.

Table C-46. Management area prescriptions for Alternative A, Little Goose West Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.31 Backcountry Recreation-Motorized	8
3.5 Plant and Wildlife Habitat Management	113
5.11 Forest Vegetation Emphasis	31
5.13 Forest Products	3,002

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... med

Solitude opportunities are rated moderate due to motorized trails in and surrounding the area.

Natural and free from disturbance ..... med

The area possesses a high degree of naturalness, but the motorized trail recreation limits the feeling of solitude, isolation, and lack of disturbance.

Challenge ..... med

The area offers a moderate degree of challenge due to unvaried terrain.

#### Primitive and unconfined recreation

Camping..... med

Fishing ..... med

Hiking ..... med

Backpacking ..... low

Hunting ..... low

Cross-country skiing..... low

Mountain climbing..... low

## ROADLESS AREA MANAGEMENT

### Environmental and special features

Scientific, educational, or historic values ..... low

Variety and abundance of wildlife ..... low

Scenic and special features ..... low

The environmental and scenic features are rated as low, due to continuous stands of pole sized lodgepole pine and unvaried terrain.

### Manageability-the extent that boundaries:

Are recognizable ..... med

Conform with terrain ..... med

Are manageable ..... med

Constitute a barrier to prohibited use ..... med

Manageability is rated high on the south end because it is adjacent to the Cloud Peak Wilderness; elsewhere manageability is moderate.

**Conclusion:** The established motorized use limits this area to the low range of capability; however, it will still be considered **Capable** for wilderness and it will be further evaluated for availability and need.

## Availability Determination

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes  
The area supports summer and winter motorized recreation use.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** The established motorized recreation use in the area reduces its value for wilderness designation. It has been determined to be **Not Available** for wilderness.

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Little Goose West roadless area (3,154 acres).

Table C-47. Management area prescriptions by alternative for the Little Goose West Roadless Area.

<b>Mgmt Rx</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
3.31	8		3,154	3,133	
3.5	113				
4.3		3,154		5	
5.11	31				
5.13	3,002			16	
5.4					3,154

The following table summarizes the Little Goose West roadless area acreage by alternative for the groups shown in Table C-5.

Table C-48. Little Goose West Roadless Area acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character					
Acres Not Retaining Roadless Character	3,154	3,154	3,154	3,154	3,154

## Roadless Area BH04I – Cloud Peak Contiguous West

<b>Acres</b>	28,345
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02031 Cloud Peak Contiguous Roadless Area (151,410 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located adjacent to the west side of the Cloud Peak Wilderness in Big Horn County, Wyoming. Primary access is available through the Battle Park Road (FR 24), the Buck Creek Road (FR 360), the Paintrock Road (FR 17), the Cold Springs Road (FR 344), the Long View Road (FR 432112), and the Whaley High Cabin Road (FR 321). Numerous trails originate along roads on the west side, and pass through the roadless area into destinations in the Cloud Peak Wilderness. The Middle Paintrock Trail (FT 066), the Edelman Trail (FT 025), Main Paintrock Trail (FT 349), North High Park Trail (FT 059), and the Long Park Trail (FT 164) are some of the popular trails in the area.
<b>Surroundings</b>	North Trapper Creek forms the north boundary, Lily Lake and Battle Park are along the south boundary, and several creeks, roads, and the Forest boundary define the west side. The Paint Rock Roadless Area (BLM) is contiguous with the west boundary of this area. Cloud Peak Contiguous North and South Roadless Areas are located to the north and south, respectively. Cloud Peak Wilderness is contiguous along the east boundary of this roadless area.
<b>Physical and biological description</b>	Area elevations range from 6,700 feet where Paint Rock Creek leaves the Forest boundary, to 11,321 feet atop Elk Mountain. The area is characterized by subalpine forests bordered by the granitic mountain peaks of the Cloud Peak Wilderness. Vegetation is predominantly forested, with a mixture of lodgepole pine, Engelmann spruce and subalpine fir stands and an understory of grouse whortleberry. There are a few stands of Douglas fir and aspen along the west boundary. Small and large open meadows occur throughout the region, featuring plant communities of Idaho fescue, big sagebrush, silky lupine, tufted hairgrass, and alpine timothy. In flood plains and alluvial depressions, willows and rushes are present in the wetter areas. Annual precipitation ranges from 23 to 33 inches, and falls mainly as snow during October through May.

**Physical and biological description**

Landtype associations consist primarily of granitic mountain slopes and areas of glacial moraines and tertiary terraces. Along the boundary of the Cloud Peak Wilderness, there are areas of alpine mountain slopes and ridges with sparsely vegetated soils. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include the high rock fragments content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.

There is an area featuring landtype associations of sedimentary origin in the southwest corner of the unit. Soil associations in this region generally exhibit shallow to moderately deep, well-drained profiles that have formed from materials derived from limestone, sandstone, and shale.

**Features**

Views of the granite peaks in the Cloud Peak Wilderness and into the Big Horn basin along the west side are the key visual features in the area. Cool, subalpine forests of lodgepole pine, Engelmann spruce, subalpine fir, and grouse whortleberry complement the area. Mill Creek and Dry Medicine Lodge Creek contain genetically pure populations of Yellowstone cutthroat trout.

**Resource Uses****Vegetation**

Vegetation is comprised of 29% lodgepole pine, 26% spruce-fir, 5% Douglas fir, 2% aspen, 26% grass/forb, 5% sagebrush, and the remainder is non-vegetated. Sagebrush stands in the area have been treated with prescribed fire to increase production and diversity of native grasses and forbs, and improve forage for livestock and wildlife. Timber sale harvest units from the 1950s, 1970s, and 1990s are located east of Spanish Point. Although aspen is not a major component of Bighorn Forest vegetation, one of the largest expanses of this species occurs in the vicinity of Cement Mountain and the Middle Fork of Paint Rock Creek. There are no known occurrences of sensitive species in the area.

**Recreation**

The majority of recreational use involves hiking, horseback riding, fishing, and hunting activities. Numerous trails are scattered throughout the area, many of which access the Cloud Peak Wilderness. The popular Long Park Trail (FT 164), located in the southern end of the roadless area, is a non-motorized trail that leads to Grace Lake and then on to Lake Solitude in the Cloud Peak Wilderness. The Edelman Trail (FT 025) originates in the north near the Paint Rock Lakes, and traverses west over the Big Horn divide to the east boundary of the Cloud Peak Wilderness. Several trails are designated for ATV, motorcycle, and snowmobile use. The Battle Park Trailhead receives concentrated use by horseback riders and ATV users. Likewise, during fall big game seasons, there are numerous hunting camps and a high volume of use in the Battle Park area. The Paint Rock Lakes region receives moderate recreation activity in the summer, with heavy use occurring during the fall hunting seasons. Anglers frequent the area lakes and streams for Yellowstone cutthroat, brook, brown, and rainbow trout.

## ROADLESS AREA MANAGEMENT

<b>Recreation</b>	Groomed snowmobile trails can be found along the west boundary and one trail segment travels through the interior of the area near Battle Park (State snowmobile trail “P”). These trails receive heavy use during the winter months, where travel to and from area lodges constitutes popular travel routes. There are no cross country ski trails in the area. Several special use permits are issued for summer trail rides and fall hunting. On Bureau of Land Management lands, ATV use occurs in the Trapper Creek area, primarily during hunting season. The ROS rating is Semi-primitive Non-motorized in the north and Semi-primitive Motorized in the south portion of the area.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, pikas, beaver, ground squirrels, and grouse. The area includes summer habitat for deer and elk, and suitable yearlong habitat is available near the Forest boundary. There are large elk calving and nursery areas in the vicinity of Battle Park, Iron Mountain, and the Medicine Lodge drainage. A number of streams and small lakes support fishable populations of cutthroat, brook, brown, and rainbow trout. Mill and Dry Medicine Lodge Creeks harbor populations of genetically pure Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouveri</i> ). The Mill Creek population is a potentially unique Yellowstone cutthroat population. Two occurrences of the water vole ( <i>Microtus richardsoni</i> ), a Forest sensitive species, have been documented near Lower Paint Rock Lake. The American marten ( <i>Martes americana</i> ), a Forest sensitive species, has been observed near Lower Paint Rock Lake.
<b>Range</b>	The area is contained within portions of Battle Park, Paint Rock Forks, and Trapper Cattle and Horse Allotments, and the Medicine Lodge Sheep and Goat Allotment. There are typical range improvements such as fences, water developments, and cow camps, in and adjacent to the roadless area. The Hyatt Cow Camp is outside the area boundary below Cement Mountain.
<b>Water</b>	The area is contained within the Trapper Creek, Dry Medicine Lodge, North Fork Paintrock Creek, and Middle/South Forks Paintrock Creek watersheds. Streams in the area are in a natural free-flowing state and are not located within a municipal watershed. Principal features include Upper Paint Rock Lake, Lost Lake, Grace Lake, Dry Medicine Lodge Creek, North/South Trapper Creeks, Trout Creek, and North, Middle and main stems of Paintrock Creek.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.
<b>Heritage resources</b>	There is a ceremonial site adjacent to the roadless area. There is potential for both historic and prehistoric sites in this area.

<b>Fire</b>	<p>The Paintrock Basin Fire burned 237 acres in the southwest portion of the area in 1910.</p> <p>Fire regimes vary with vegetation composition and elevation, with the majority of the area in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement. The other major fire regime in the area is in the Engelmann spruce-subalpine fir habitat type. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. The sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.</p>
<b>Other</b>	<p>There are several developed recreation sites along the west boundary of the area. Cloud Peak Biological Area is adjacent to the east side of the roadless area, and follows the approximate wilderness boundary. Bureau of Land Management Lands are adjacent to the southwest boundary, and the agency has recommended Paint Rock Creek for Wild and Scenic designation. The Cloud Peak Wilderness is contiguous with the east boundary of this roadless area.</p>

Table C-49. Management area acres for Alternative A, Cloud Peak Contiguous West Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.24 Riparian Areas	63
3.5 Plant and Wildlife Habitat Management	13,582
4.2 Scenery	118
5.11 Forest Vegetation Emphasis	3,223
5.12 Rangeland Vegetation Emphasis	9,238
5.13 Forest Products	2,121

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### **Primary Elements**

Opportunity for solitude ..... med

Solitude opportunities are moderate due to the high volume of use in certain areas. The east side of the area is bordered by the Cloud Peak Wilderness.

Natural and free from disturbance ..... med

The area is largely natural in appearance, with the exception of grazing in the Battle Park area. Motorized trails cause disturbance in certain locations.

Challenge ..... med

## ROADLESS AREA MANAGEMENT

The area offers a moderate degree of challenge due to unvaried terrain with limited access.

### Primitive and unconfined recreation

Camping.....	high
Fishing .....	high
Hiking .....	high
Backpacking.....	high
Hunting .....	high
Cross-country skiing.....	med
Mountain climbing.....	med

### Environmental and special features

Scientific, educational, or historic values .....	med
Variety and abundance of wildlife .....	high
Scenic and special features .....	high

This area offers a moderate level of opportunity for outdoor education and environmental study. There are opportunities to study subalpine and alpine ecosystems and glacier-affected land forms. Several sensitive species of mammals occur here and genetically pure strains of Yellowstone cutthroat trout are found in Mill Creek and Dry Medicine Lodge Creek. The scenic features are rated high, with subalpine forest, streams and lakes, and views of the granite peaks of the Cloud Peak Wilderness.

### Manageability-the extent that boundaries:

Are recognizable.....	med
Conform with terrain .....	med
Are manageable .....	high
Constitute a barrier to prohibited use.....	med

Manageability of the area varies somewhat by location – much of the west side is defined by streams and roads, but there are less obvious boundaries in the north. Conflicts may arise near roads and motorized trails. The Paint Rock Roadless Area (BLM) is contiguous with the west boundary of this area and Paint Rock Creek has been recommended for Wild and Scenic River designation by the BLM. The Cloud Peak Wilderness is contiguous along the east side of the roadless area.

**Conclusion:** The established motorized use in this area and the manageability restricts it to the low range of capability; however it will be considered **Capable** for wilderness and it will be further evaluated for availability and need.



### Availability Determination

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes  
The area supports summer and winter motorized recreation.
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** Based on the established motorized use in the area, this area has been determined to be **Not Available** for wilderness.

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Cloud Peak Contiguous West roadless area (28,345 acres).

Table C-50. Management area prescriptions by alternative for the Cloud Peak Contiguous West Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.13					
1.32		18,129	18,130	8,136	
2.1		2,606	4,455		
3.24	63				
3.31		3,267	4,394	116	
3.4		1,335	1,335		
3.5	13,582				
4.2	118				
4.3				3,209	118
5.11	3,223	1,042	31	9,320	20,539
5.12	9,238	117		7,564	
5.13	2,121				7,688
5.41		1,849			

## ROADLESS AREA MANAGEMENT

The following table summarizes the Cloud Peak Contiguous West roadless area acreage by alternative for the groups shown in Table C-5.

Table C-51. Cloud Peak Contiguous West Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character		20,734	22,585	8,139	
Acres Not Retaining Roadless Character	28,345	7,611	5,760	20,206	28,345

## Roadless Area BH042 – Medicine Lodge

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<b>Acres</b>	5,997
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02031 Cloud Peak Contiguous Roadless Area (151,410 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 14 air miles east of Greybull, Wyoming in Big Horn County. Primary access is provided by the Paintrock Road (FR 17), Cold Springs Road (FR 344), Bear Mountain Road (FR 355), and Captain Jack Road (FR 431311). Lower Medicine Lodge Trail (FT 354) and Black Butte Trail (FT 180) are the only designated trails in the area.
<b>Surroundings</b>	The area is bounded on the north by Medicine Lodge Creek and on the south by Allen Draw. Medicine Lodge Lakes are along the northeast corner of the area, and Black Butte is located in the northwest corner. The Forest boundary forms the west side, and the roadless area is contiguous to the proposed Medicine Lodge Wilderness Area, administered by the Bureau of Land Management.
<b>Physical and biological description</b>	<p>Elevations range from 6,700 feet where Medicine Lodge Creek leaves the Forest boundary to 9,300 feet. The area contains a wide variety of vegetation and landforms, ranging from lower elevation Douglas fir forests and sagebrush basins, to cooler, moist slopes of Engelmann spruce. Upper and Lower Medicine Lodge Lakes are located on glacial moraines adjacent to the uplifted granitic core of the Big Horn Mountains. Medicine Lodge Creek winds through lodgepole pine and spruce fir forests, gradually losing elevation through a transition from glacial terraces to sedimentary landforms as it leaves the Forest boundary and forms Medicine Lodge Canyon. Annual precipitation ranges from 23 inches along the far west slopes, to 28 inches in the subalpine zone. The precipitation occurs primarily as snow between the months of April and October in the higher elevations.</p> <p>Landtype associations are a mix of sedimentary mountain slopes and breaklands, with some colluvial landslide deposits derived from interbedded shale and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other limiting factors include steep slopes and the high rock fragment content of the limestone soils.</p> <p>There are also granitic mountain slopes and areas of glacial moraines and tertiary terraces. The soils in this region have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include the high rock fragments content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.</p>

## ROADLESS AREA MANAGEMENT

<b>Features</b>	The diverse vegetation and views into the Big Horn basin and Cloud Peak Wilderness are attributes of the landscape. Medicine Lodge Creek flows along the north boundary of the area and develops into a rugged canyon as it leaves the Forest boundary. Upper and Lower Medicine Lodge Lakes are fishing and camping destinations.
<b>Resource Uses</b>	
<b>Vegetation</b>	Vegetation is comprised of 27% spruce-fir, 25% Douglas fir 23% lodgepole, 9% sagebrush, 8% grass/forb. The vegetation is largely natural and features diverse communities of dry, low elevation sites of Douglas fir – mountain ninebark to cooler, north-facing slopes of Engelmann spruce – grouse whortleberry. Some of the riparian areas show impacts from grazing and exotic species are present. There are several timbered areas along the boundary that were thinned as well as areas that were seeded with Douglas fir. There are no known occurrences of Forest Service sensitive species in the unit.
<b>Recreation</b>	The area receives light recreational use in the form of hiking, horseback riding, and fishing. Upper and Lower Medicine Lodge Lakes are popular fishing spots and campground facilities are nearby at Medicine Lodge and Paintrock Lakes. Two trailheads are located in the Medicine Lodge and Paint Rock Lakes area, for trails that lead to destinations in the Cloud Peak Wilderness. The Black Butte Trail (FT 180) extends from Black Butte to Bear Mountain and is open to snowmobile use. Adjacent to the Forest boundary, the BLM lands experience both authorized and illegal ATV use primarily during hunting season, in the Medicine Lodge Canyon area. Big game hunting pressure in the fall is moderate to heavy, with hunting activity concentrated along the Paintrock Road (FR 17). A groomed snowmobile trail follows the east and north boundaries of the area. The north half of the area is rated for ROS as Semi-primitive Motorized, and the south half is Semi-primitive Non-motorized. An emphasis of Roaded Natural is in the vicinity of Upper Medicine Lodge Lake.
<b>Wildlife</b>	Big game species within the area include elk, deer, mountain lion, and black bear. Small game species include sage grouse and blue grouse. Various birds, raptors, small mammals, and furbearers are found in the area including yellow-bellied marmot, beaver, and golden eagle. The area provides spring calving, summer, fall, and critical winter habitat for elk and deer. Sage grouse ( <i>Centrocercus urophasianus</i> ), a Forest Service sensitive species, may utilize the area near the Forest boundary for summer habitat, as two leks are located within the Bear Mountain area. Medicine Lodge Lakes offer anglers the opportunity to catch brook, rainbow, Eagle Lake rainbow, and lake chub. Just outside the area boundary, two occurrences of the water vole ( <i>Microtus richardsoni</i> ), a Forest sensitive species, have been documented near Lower Paint Rock Lake. The American marten ( <i>Martes americana</i> ), a Forest sensitive species, has been also been observed near Lower Paint Rock Lake.

<b>Range</b>	The area is used for grazing livestock and is located within the Forks and Trapper Cattle and Horse Allotments. Pastures are operated under a deferred rotation grazing system and are administered by the Paintrock Allotment Management Plan. Typical range improvements such as fences, water developments, and cow camps are located within and adjacent to the area.
<b>Water</b>	The roadless area is contained entirely within the Medicine Lodge Creek watershed. The streams in the area are in a natural free-flowing state and are not located within a municipal watershed.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.
<b>Heritage resources</b>	There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.
<b>Fire</b>	<p>There are no wildfires on record for this area.</p> <p>Fire regimes vary with vegetation composition and elevation, with the lower elevations in the Douglas fir habitat type. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The areas of sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants. There are scattered stands of Engelmann spruce-subalpine fir habitat type on cool, north and east aspects. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. The lodgepole pine group typically experiences a high-intensity burn regime that results in stand replacement.</p>
<b>Other</b>	This area is contiguous on the west boundary to the recommended Medicine Lodge Wilderness, a 7,740 acre Bureau of Land Management unit. The State of Wyoming administers Medicine Lodge Big Game Winter Range outside the Forest boundary to the west. Cloud Peak Contiguous West Roadless Area lies a short distance to the east.

Table C-52. Management area acres for Alternative A, Medicine Lodge Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	2,842
3.5 Plant and Wildlife Habitat Management	201
4.2 Scenery	181
5.11 Forest Vegetation Emphasis	108
5.12 Rangeland Vegetation Emphasis	1,139
5.13 Forest Products	1,526

## Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

### Primary Elements

Opportunity for solitude..... high

The area generally provides very high opportunities for solitude.

Natural and free from disturbance ..... high

The area is largely natural and undeveloped. There is a minimal amount of seasonal disturbance created by hunting and snowmobiling.

Challenge ..... med

The area offers a moderate degree of challenge due to the unvaried terrain with limited access.

### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking..... high

Hunting ..... high

Cross-country skiing..... low

Mountain climbing..... low

### Environmental and special features

Scientific, educational, or historic values ..... med

Variety and abundance of wildlife..... high

Scenic and special features ..... high

The area offers a moderate level of opportunity for outdoor education and environmental study. The scenic features are rated high, with extensive views, sedimentary and granitic landforms, and diverse plant communities. Sage grouse leks are in the area.

### Manageability-the extent that boundaries:

Are recognizable..... med

Conform with terrain ..... high

Are manageable ..... med

Constitute a barrier to prohibited use..... high

The boundaries are very manageable overall. It is contiguous with the recommended Bureau of Land Management 's Medicine Lodge

Wilderness (7,740 acres) on the west side. Cloud Peak Contiguous West Roadless Area is a short distance to the east. The developed recreation sites (lakes, campgrounds) along the east side present a challenge for administration and management as designated wilderness.

**Conclusion:** The natural character of the landscape, the high opportunities for solitude, and its location next to adjoining primitive federal land, make the area **Capable** for wilderness. It will be further evaluated for availability and need.

### **Availability Determination**

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No |
| 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation?                              | No |

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### **Need Determination**

**Nearby Wilderness:** The roadless area lies approximately one mile west of the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness Area. This roadless area is contiguous to roadless and undeveloped areas in other federal ownerships that have identified wilderness potential (i.e., the Bureau of Land Management has recommended the 7,740 acre Medicine Lodge Wilderness Study Area for wilderness designation).

**Wildlife Needs:** Sage grouse, (*Centrocercus urophasianus*), a Forest Service sensitive species, may utilize the area near the Forest boundary for summer habitat, as two leks are located within the Bear Mountain area. Just outside the area boundary, two occurrences of the water vole (*Microtus richardsoni*), a Forest sensitive species, have been documented near Lower Paint Rock Lake. The American marten (*Martes americana*), a Forest sensitive species, has also been observed near Lower Paint Rock Lake. No species have been identified in the Medicine Lodge area that require a wilderness environment for survival.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. Medicine Lodge Roadless Area consists of sedimentary breaklands and mountain slopes with lower elevation ecosystems including Idaho fescue, Douglas-fir, and mountain shrub communities. These communities are not well-represented in nearby Wyoming wilderness areas.

## ROADLESS AREA MANAGEMENT

The following table displays percentage of the cover types represented in this roadless area.

Table C-53. Percent of cover types in the Medicine Lodge Roadless Area.

Cover Type	Acres	Percent
Forb	237	4
Grass	285	5
Bare	105	2
Rock		
Shrub	137	2
Sagebrush	558	9
Willow	10	-
Aspen	70	1
Cottonwood/willow		
Douglas fir	1,531	26
Limber pine	48	1
Lodgepole pine	1,389	23
Ponderosa pine		
Pinyon-juniper		
Spruce-fir	1,627	27

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-54. Limited representation cover types in the Medicine Lodge Roadless Area.

Cover Type	Acres in Medicine Lodge Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine		
Douglas fir	1,530	3%
Lodgepole pine	1,387	2%
Big sagebrush	558	8%
Pinyon-juniper		
Aspen	70	3%
Grass	285	3%
Limber pine	48	1%

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Medicine Lodge roadless area (5,997 acres).



Table C-55. Management area prescriptions by alternative for the Medicine Lodge Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.2			5,305		
1.32	2,842			2,468	682
1.33		4,237			
3.31			692		
3.5	201				
4.2	181				
4.3				706	181
5.11	108	1,760		2,750	
5.12	1,139				
5.13	1,526			73	3,403
5.4					1,731

The following table summarizes the Medicine Lodge roadless area acreage by alternative for the groups shown in Table C-5.

Table C-56. Medicine Lodge Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	2,841	4,237	5,305	2,468	682
Acres Not Retaining Roadless Character	3,156	1,760	692	3,529	5,315

## Roadless Area BH043 – Tongue River

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<b>Acres</b>	12,424
<b>Ranger District</b>	Tongue
<b>History</b>	This area was originally part of the #02020 Little Bighorn Roadless Area (134,760 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 3 air miles southwest of Dayton, Wyoming in Sheridan County. Primary access is provided by US Highway 14, Skull Ridge Road (FSR 151), Sheep Creek Road (FSR 198), and Freeze Out Cow Camp Road (FSR 199). Non-motorized access is available through the Tongue River Canyon Trail (FST 002). The Horse Creek Trail (FST 159) is open to motorized use and intersects the Tongue River Canyon Trail.
<b>Surroundings</b>	The area is bounded on the north by Sheep Creek and Amsden Creek Big Game Winter Range (Wyoming State land). The Forest boundary forms the eastern boundary, and the south and west boundaries follow roads, State land, and timber harvest units.
<b>Physical and biological description</b>	<p>Elevations range from 4,600 feet in the northeast corner of the area where the Tongue River leaves the Forest boundary, to 8,321 feet at the top of Skull Ridge. The area is characterized by steep canyons dissecting open, rolling plateaus. There is a mixture of forested stands of ponderosa pine, lodgepole pine, Douglas-fir, and aspen, with Engelmann spruce on north and east aspects in the higher elevations. The forested areas are interspersed with open parks and ridges consisting of big sagebrush and Idaho fescue on the upland areas. The area receives approximately 23 inches of precipitation per year, with the majority falling as snow between October and April.</p> <p>Landtype associations consist of sedimentary mountain slopes and breaklands, with some colluvial landslide deposits derived from interbedded shale and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other factors limiting revegetation and development include steep slopes and the high rock fragment content of the limestone soils.</p> <p>The south central portion of the unit contains landtype associations of granitic origin, with moderately deep, well-drained soils formed in residuum derived from granite. Steep slopes of granitic talus limit development and revegetation.</p>

**Features**

Dominant visual features in this unit are the Tongue River, Tongue River Canyon, Steamboat Point, and the rugged Box Canyon. The Tongue and North Tongue Rivers are contained within the Forest's management area prescription of Wild and Scenic Rivers and provide excellent hiking and fishing opportunities. Tongue River Cave has been nominated as a "significant" cave under the 1988 Federal Cave Resources Protection Act.

**Resource Uses****Vegetation**

Vegetation is comprised of 33% lodgepole pine, 20% ponderosa pine, 11% aspen, 5% spruce-fir, 4% Douglas fir, and the remainder is composed of grass/forb/sagebrush communities. Prescribed fire has been used in the area between the Tongue River and Horse Creek Ridge on ponderosa pine to reduce conifer encroachment in meadows, enhance species diversity, and improve wildlife forage through regeneration of shrubs and grasses. Sagebrush and aspen stands have been treated with prescribed fire to stimulate regeneration, increase plant vigor and improve forage for wildlife. An ecological evaluation was conducted on the area and determined that 7% of the grassland/shrub vegetation is comprised of exotic plants. There are no known occurrences of Forest sensitive species in the unit.

Portions of the forested areas near Horse Creek Ridge and Tongue River Canyon are experiencing high mortality due to mountain pine beetle infestations and white pine blister rust. The Twin Nickel and Nickle Creek timber sales have taken place outside the area along the southwest boundary. During the tie hack era, logging occurred in forested portions of the area around the turn of the century.

**Recreation**

The majority of recreational use involves hiking, horseback riding, mountain biking, fishing, photography, and hunting. Drier, milder conditions occur along the eastern portion of the area, which extend the recreation seasons along the popular Tongue River Canyon Trail. Caving in Tongue River Cave, climbing of canyon walls, and off-trail hiking are popular activities in the canyon. There are dispersed campsites along the hiking trails in the area. The Tongue River is classified as a Class I fishery by the Wyoming Game and Fish Department and is frequented by anglers seeking rainbow, brook, and brown trout. The Horse Creek Ridge Trail (FT 159) is authorized for motorized recreation and is used by ATVs. Big game hunting pressure in the fall is moderate, with hunters accessing the area from the Skull Ridge Road (FSR 151). There are special use outfitter/guide permits authorized for black bear near the confluence of the Tongue and North Tongue Rivers. There are no groomed snowmobile or cross-country ski trails in the area.

## ROADLESS AREA MANAGEMENT

<b>Recreation</b>	Other special uses include the Bighorn Wild and Scenic Run - a competitive trail run that includes the Tongue River Canyon Trail (FT 002) and the Horse Creek Ridge Trail (FT 159). The annual 2-day event takes place in June and features 30 kilometer, 50 kilometer, 50 mile, and 100 mile events that traverse other roads and trails on the Forest. The ROS rating for the area includes a mix of Semi-primitive Motorized, Semi-primitive Non-motorized, and Roded Natural near the east boundary of the area.
<b>Wildlife</b>	The river corridors provide important habitat for many terrestrial and aquatic wildlife species. The riparian areas serve as feeding and nesting sites for birds and canyon walls offer potential nesting habitat for peregrine falcons. The area includes summer habitat for deer, elk and moose, and is used as a migratory route into winter range in the adjoining Amsden Creek Big Game Winter Range (State of Wyoming unit). A variety of trout are found in the Tongue and North Tongue Rivers including rainbow trout, brook trout, brown trout, Snake River cutthroat, Yellowstone cutthroat trout, and various hybrids. Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouvieri</i> ), a Forest sensitive species, have been stocked in the North Tongue River by the Wyoming Game and Fish Department, but there is no evidence of a naturally reproducing population there. Several sensitive species of bats, including Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> ) and fringed myotis ( <i>Myotis thysanodes</i> ) roost in canyon walls and in Tongue River cave.
<b>Range</b>	The area is contained within portions of Freezeout, Little Tongue, and Nickelmine Cattle and Horse Allotments. The allotments are administered by the Tongue River Allotment Management Plan. Typical range improvements such as fences and water developments are found in this unit.
<b>Water</b>	The Tongue and North Tongue Rivers (and tributaries) are located within the Tongue Municipal Watershed that supplies drinking water to the communities of Dayton and Ranchester. The watershed also supplies irrigation water to agricultural lands off the Forest. Under some Forest plan alternatives, a length of the Tongue River is recommended for Wild/Scenic/Recreational designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress.
<b>Minerals</b>	There are 280 acres reserved for private ownership of subsurface minerals, oil, and gas resources in T56N, R88W, Sections 23 and 24 <sup>5</sup> . A portion of this encumbrance is located within this roadless area. There are no withdrawals and the area is considered to have low mineral and no oil/gas potential. There is a leopard rock quarry located just outside the southeast corner of the area that is a popular site for collection of common rock for landscape and decorative purposes.

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<sup>5</sup> Recorded encumbrance T56N, R88W, S ½ NE1/4, NE1/4 SE1/4 Sec 23 (120 acres).

T56N, R88W, S ½ NW1/4, N ½ SW1/4 Sec 24 (160 acres).

<b>Heritage resources</b>	The Tongue River contains remnants of a tie flume from the late 1800s. There are several ceremonial sites and prehistoric/historic travel routes adjacent to the unit. The presence of these sites in the region indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	<p>A small area in the northeast corner of the unit was burned by a historic wildfire (1917) known as the Tongue River Fire.</p> <p>Fire regimes vary with vegetation composition and elevation, with nearly one-third of the unit in the ponderosa pine habitat type. The ponderosa pine fire regime is characterized historically by frequent, low-intensity fires that burn the understory, keeping mature stands open and park-like. The lodgepole pine habitat typically experiences a high-intensity burn regime that results in stand replacement. The sage/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.</p>
<b>Other</b>	Amsden Creek Big Game Winter Range, administered by the State of Wyoming, borders the unit in the northeast corner of the area. The State of Wyoming also administers Tongue River Campground, located just outside the area's northeast boundary, and several privately owned residences are located along the river in Tongue River Canyon. State school lands along US 14 border the south edge of the unit.

Table C-57. Management area acres for Alternative A, Tongue River Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	2,258
3.4 National River System-Scenic Rivers	6,943
3.5 Plant and Wildlife Habitat Management	1,501
5.11 Forest Vegetation Emphasis	300
5.12 Rangeland Vegetation Emphasis	157
5.41 Deer and Elk Winter Range	1,265

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### **Primary Elements**

Opportunity for solitude ..... high

Opportunities for solitude are rated high in most of the area, with moderate rating along the popular Tongue River Trail. Wild river recommendation describes a core area of solitude.

Natural and free from disturbance ..... med

## ROADLESS AREA MANAGEMENT

The area is modified in appearance by grazing of domestic livestock, range improvements, and approximately 7% of the area is impacted by exotic plant species.

Challenge ..... med

The area offers a moderate degree of challenge, with a hiking trail through the rugged portion of the canyon country.

### Primitive and unconfined recreation

Camping..... med

Fishing ..... high

Hiking ..... high

Backpacking..... high

Hunting ..... high

Skiing..... low

Mountain climbing..... high

### Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife..... high

Scenic and special features ..... high

This area offers a high degree of opportunity for outdoor education and environmental study. Tongue River canyon is an excellent example of sedimentary geology and Tongue River cave offers environmental education opportunities in cave formation and cave resources. The scenic features of the area are considered outstanding due to the steep canyons, extensive views, and the sedimentary geology. Historic values are high with remnants of a circa-1900s tie flume present along the Tongue River. The river corridors are inhabited by a wide variety of terrestrial and aquatic wildlife species.

### Manageability-the extent that boundaries:

Are recognizable ..... high

Conform with terrain ..... med

Are manageable ..... high

Constitute a barrier to prohibited use..... med

This area has a moderate to high level of manageability. Boundary lines along the north and south are common between State and Forest Service jurisdictions.

**Conclusion:** The high opportunities for solitude and its unique environmental features result in the area to be considered **Capable** for wilderness. It will be further evaluated for availability and need.

### **Availability Determination**

- |   |     |
|---|-----|
| 1. Is the area vitally needed for increased water protection and storage?   | No  |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No  |
| 3. Does the area have high strategic or economic mineral development potential?   | No  |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No  |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No  |
| 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation?                              | Yes |

There are 280 acres reserved for private ownership of subsurface minerals, oil, and gas resources that are partially contained within the roadless area.

**Conclusion:** Based on the subsurface ownership of minerals, this area has been determined to be **Not Available** for wilderness.

### **Environmental Consequences**

The following table shows the management prescription allocations by alternative for the Tongue River roadless area (12, 424 acres).

Table C-58. Management area prescriptions by alternative for the Tongue River Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.31				6,001	6,182
1.32	2,258				
1.5		6,561	6,670		
3.31			3,770		
3.4	6,943				
3.5	1,501	3,879		1,286	
4.2		625	625	675	
4.3				1,061	
4.4		1,359	1,359		
5.11	300			3,401	
5.12	157				
5.13					
5.4					1,377

## ROADLESS AREA MANAGEMENT

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
5.41	1,265				1,758
5.5					3,107

The following table summarizes the Tongue River roadless area acreage by alternative for the groups shown in Table C-5.

Table C-59. Tongue River Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	2,258	6,562	6,670	6,000	6,182
Acres Not Retaining Roadless Character	10,166	5,862	5,754	6,424	6,242



## Roadless Area BH044 – Lodge Grass Creek

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<b>Acres</b>	10,045
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02020 Little Bighorn Roadless Area (134,760 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located in the along the Wyoming-Montana state line in the extreme northern edge of the Forest. Primary access is provided by Sheep Mountain Road (FR 11), Marble Quarry Road (FR 111), and Lodge Grass Cow Camp Road (FR 101). Lodge Grass Trail (FT 061) follows Lodge Grass Creek through the area.
<b>Surroundings</b>	The Wyoming-Montana state line forms the north boundary, the Sheep Mountain Road (FR 11) runs along the area's west side, and the Marble Quarry Road (FR 111) runs along the east and south boundaries. The Crow Indian Reservation is located outside the northern boundary in Montana. Little Bighorn Roadless Area is located immediately to the southeast.
<b>Physical and biological description</b>	<p>Elevations range from approximately 6,300 feet where Lodge Grass Creek exits the National Forest, to 9,200 feet along the ridge below Sheep Mountain. Lodge Grass Creek enters the southwest corner of the area and runs north through forested regions of Engelmann spruce-subalpine fir stands. As the creek continues north and loses elevation, it emerges from the forested region into an open rolling grassland plateau surrounded by steep ridges and escarpments. The parks and ridges contain big sagebrush, bluebunch wheatgrass, and Idaho fescue on the upland areas, and are interspersed with forested stands of Douglas fir, limber pine, and juniper in the lower elevations. Lodge Grass Creek flows through a deep valley leading into a canyon environment as it leaves the Forest, before joining the Little Bighorn River in Montana. Approximately 23 to 28 inches of precipitation per year falls in this watershed, primarily as snow between the months of October and April.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands, with colluvial landslide deposits located along Lodge Grass Creek. Soils in the area are generally moderately deep, well drained and formed in residuum and colluvium derived limestone and shale. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. Factors that limit development and revegetation include the potential for mass movement of soil, the high shrink-swell properties of the landslide deposits, and the droughtiness of certain soil types.</p>
<b>Features</b>	Lodge Grass Creek is the dominant feature in the area. Sheep Mountain is located just outside the southwest corner of the unit.

## ROADLESS AREA MANAGEMENT

### Resource Uses

<b>Vegetation</b>	Vegetation is comprised of 36% spruce-fir, 23% Douglas fir, 6% limber pine, 18% grass/forb, 2% sagebrush, and the remainder is non-vegetated. Lodge Grass Timber Sale harvest units (1986) are outside the east boundary of the unit on the east side of Lodge Grass Creek. There are no known occurrences of sensitive species in the roadless area.
<b>Recreation</b>	The majority of recreational use is light and involves hiking, horseback riding, fishing, and hunting activities. Lodge Grass Creek Trail (FT 061) follows Lodge Grass Creek through the roadless area. Although open to motorized travel, the rough terrain along the trail limits the use of ATVs or motorcycles. There are no groomed snowmobile or cross-country ski trails in the area. There are special use permits authorized for fall hunting and black bear baiting along the Marble Quarry Road (FR 111). The ROS-existing condition is Semi-primitive Motorized and Semi-primitive Non-motorized.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The area provides spring calving, summer, and fall habitat for elk and deer. There are rainbow trout, cutthroat trout, and hybrids in Lodge Grass Creek. A segment of Lodge Grass Creek harbors a genetically pure population of Yellowstone cutthroat trout. Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouveri</i> ), a Forest sensitive species, are present in physically isolated stream reaches, but their specific origin is unknown. The roadless area is contained within the Porcupine/Mann Creek lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.
<b>Range</b>	Livestock grazing is the predominant resource use in the area within the Devils Canyon, Lodge Grass Creek, and Red Springs Cattle and Horse Allotments. There are typical range improvements such as fences, stock ponds, and cow camps located in and adjacent to the area. The Lodge Grass Creek Allotment is administered under the Devils Canyon Allotment Management Plan.
<b>Water</b>	The area is located entirely within the Lodge Grass Creek Watershed. Lodge Grass Creek, Line Creek and their tributaries are the primary streams in the unit. The streams are in a natural free-flowing state and are not located within a municipal watershed.
<b>Minerals</b>	There are no active mineral claims and the area is considered to have low mineral and no oil/gas potential.
<b>Heritage resources</b>	There are several ceremonial sites and a travel route adjacent to the unit. The presence of a nearby prehistoric/historic travel corridor indicates high potential for other eligible heritage resources in the area.

**Fire**

There has been an active fire history in the unit with numerous large and small fires occurring over a span of 10 years. The Lodge Grass fire (1919) consumed 288 acres, the Red Springs fire (1919) burned 75 acres, and an unnamed fire in 1930 burned 5,963 acres. The largest burn area was the Crow Reservation fire (1921), which extended into Montana and totaled 18,321 acres.

Fire regimes vary with vegetation composition and elevation, with one-third of the unit in the Engelmann spruce-subalpine fire regime group. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. The Douglas fir, limber pine and juniper areas are in a regime of mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The sagebrush/grassland areas of the unit are typically subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.

**Other**

The Crow Indian Reservation is adjacent to the north boundary of this unit, along the Wyoming-Montana border.

Table C-60. Management area acres for Alternative A, Lodge Grass Creek Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	14
3.5 Plant and Wildlife Habitat Management	4,157
5.11 Forest Vegetation Emphasis	757
5.12 Rangeland Vegetation Emphasis	3,783
5.13 Forest Products	1,334

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... high

The area is remote and offers excellent opportunities for solitude.

Natural and free from disturbance ..... high

The area possesses a high degree of naturalness. There is some seasonal disturbance from livestock grazing/trailing and hunting in the fall.

## ROADLESS AREA MANAGEMENT

Challenge ..... med

### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking..... med

Hunting ..... high

Skiing..... low

Mountain climbing..... low

### Environmental and special features

Scientific, educational, or historic values ..... med

Variety and abundance of wildlife..... high

Scenic and special features ..... med

Lodge Grass Creek harbors a population of genetically pure  
Yellowstone cutthroat trout.

### Manageability-the extent that boundaries:

Are recognizable ..... high

Conform with terrain ..... med

Are manageable ..... high

Constitute a barrier to prohibited use..... high

**Conclusion:** This area lies in the moderate range of capability. It will be considered **Capable** for wilderness and will be further evaluated for availability and need.

### **Availability Determination**

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? No

6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### **Need Determination**

**Nearby Wilderness:** The roadless area lies approximately 30 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of Cloud Peak Wilderness.

**Wildlife Needs:** Yellowstone cutthroat trout (*Oncorhynchus clarki bouveri*), a Forest sensitive species, are present in physically isolated reaches of Lodge Grass Creek. No species have been identified in the Lodge Grass Creek area that require a wilderness environment for survival.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. Lodge Grass Creek Roadless Area features a lower elevation ecosystem of Douglas fir forests, meadows, and streams, to cooler Engelmann spruce fir forests at higher elevations. The lower elevation ecosystem is not well represented in the Wyoming wilderness system.

The following table displays percentage of the cover types represented in this roadless area.

Table C-61. Percent of cover types in the Lodge Grass Creek Roadless Area.

<b>Cover Type</b>	<b>Acres</b>	<b>Percent</b>
Forb	650	7
Grass	1,254	13
Bare		
Rock	1,035	11
Shrub	87	1
Sagebrush	209	2
Willow		
Aspen	140	1
Cottonwood/willow		
Douglas fir	2,264	23
Limber pine	617	6
Lodgepole pine		
Ponderosa pine		
Pinyon-juniper		
Spruce-fir	3,567	36

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-62. Limited representation cover types in the Lodge Grass Creek Roadless Area.

Cover Type	Acres in Lodge Grass Creek Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine		
Douglas fir	2,265	4%
Lodgepole pine		
Big sagebrush	209	3%
Pinyon-juniper		
Aspen	140	5%
Grass	1,254	12%
Limber pine	617	8%

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Lodge Grass roadless area (10,045 acres).

Table C-63. Management area prescriptions by alternative for the Lodge Grass Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32					
1.33	14	8,978	8,978	14	
3.5	4,157		1,067		
5.11	757			9,421	910
5.12	3,783	1,067		610	
5.13	1,334				739
5.4					8,396

The following table summarizes the Lodge Grass Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-64. Lodge Grass Creek Roadless Area acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character	14	8,978	8,978	14	
Acres Not Retaining Roadless Character	10,031	1,067	1,067	10,031	10,045

## Roadless Area BH045 – Cookstove Basin

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<b>Acres</b>	6,655
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02021 Devils Canyon Roadless Area (34,280 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located along the Wyoming-Montana state line in the extreme northeast corner of the Forest in Big Horn County, Wyoming. Primary access to the area is provided by Sheep Mountain Road (FR 11), Steel Granary Road (FR 104), State Line Road (FR 647), and Cookstove Basin Road (FR 103). Access is also available through Bureau of Land Management land near Trout Creek. There are no designated trails in the area.
<b>Surroundings</b>	The Wyoming-Montana state line forms the north boundary, the Sheep Mountain Road (FR 11) runs along the area's east side, and the Steel Granary Road (FR 104) forms the south boundary. Cookstove Basin Road (FR 103) runs partway through the area's midsection and forms two "thumbs" in the unit. The Forest boundary is located on the area's west side and the Crow Indian Reservation is located outside the north boundary in Montana. The backbone of the Big Horn mountains lies to the east of the area, and the arid Bighorn Basin drops away to the west.
<b>Physical and biological description</b>	<p>Elevations range from 5,800 feet where Trout Creek leaves the Forest boundary, to 8,958 feet along the area's east boundary. The area features a large southwest facing grassland basin bordered by forested ridges of Douglas fir and limber pine stands at the drier, lower elevations, and Engelmann spruce-subalpine fir stands at more moist, higher elevations. Cookstove Basin, the dominant feature in the landscape, slopes sharply to the southwest to form the drainage for Trout Creek as it exits the Forest. The basin contains big sagebrush and Idaho fescue as the dominant plant community. Mature stands of lodgepole pine and Engelmann spruce-subalpine fir associated with granitic soils occur in the southeast quadrant of the area. These forested areas contain small open parks of Idaho fescue and sedges. Riparian vegetation consists of cottonwoods, willows and sedges in the meadows along Trout Creek. Approximately 18 to 28 inches of precipitation per year falls in the region, primarily as snow between the months of October and April.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands, with some colluvial landslide deposits derived from interbedded shale and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other limiting factors include steep slopes and the high rock fragment content of the limestone soils.</p>



<b>Physical and biological description</b>	The southeast portion of the unit contains landtype associations of granitic origin, with shallow to moderately deep, well-drained soils formed in residuum derived from granite. Steep slopes and droughtiness of certain soil types limit development and revegetation.
<b>Features</b>	Dominant features are Cookstove Basin and Trout Creek. Sheep Mountain is visible from certain locations in the area. Trout Creek contains genetically pure Yellowstone cutthroat trout.
<b>Resource Uses</b>	
<b>Vegetation</b>	Vegetation is comprised of 36% Douglas fir, 15% spruce-fir, 15% lodgepole pine, 18% grass/forb, 7% sagebrush, and the remainder non-vegetated. Some of the uplands and riparian areas show impacts from grazing, and exotic species (Canada thistle) are present along Trout Creek. The exotics have been chemically treated in the 1970s. Decadent sagebrush stands in Cookstove Basin have been treated with prescribed fire to improve livestock/wildlife forage and grazing distribution. The WYNDD contains records for populations of Cary beardtongue ( <i>Penstemon caryi</i> ), a Forest sensitive species, for this roadless area.
<b>Recreation</b>	The area is largely natural and undeveloped. Recreation use is light due to the remoteness of the area. Some fishing, hiking, and camping occur in the area. Big game hunting increases activity in the fall, particularly near local roads. Special use permits are authorized for fall hunting. There are no snowmobile, cross country, or hiking trails in the unit. The ROS is Semi-primitive Motorized in the east half of the area and Semi-primitive Non-motorized in the west half.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, beaver, ground squirrels, and grouse. The area provides summer and fall range for big game species, and there is a central core area of suitable habitat for year-round use that extends from Cookstove Basin westward and off Forest. The Cookstove Basin area is a central migration route for elk and used for parturition purposes in the spring-early summer season. There is evidence of past beaver activity along Trout Creek, where numerous large pools have been created, slowing water velocity and causing some siltation along segments of the stream. Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouvieri</i> ), a Forest sensitive species, have been sampled in Trout Creek and subsequent DNA testing revealed the sample to be genetically pure. The roadless area is contained within the Porcupine/Mann Creek lynx habitat unit. The Canada lynx ( <i>Lynx canadensis</i> ) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.

## ROADLESS AREA MANAGEMENT

<b>Range</b>	Located solely within the Devil's Canyon Cattle and Horse Allotment, typical range improvements such as fences, water developments, and cow camps are located within and adjacent to the area. Pastures are operated under a deferred rotation grazing system and are administered by the Devil's Canyon Allotment Management Plan.
<b>Water</b>	The area contains the headwaters of Trout Creek, which flows westward before leaving the Forest, where it crosses into Montana and confluences with Porcupine Creek in Devil's Canyon. The streams in the area are in a natural free-flowing state and are not located within a municipal watershed.
<b>Minerals</b>	Historic placer mining occurred along Trout Creek in the early 1900s, but no significant production resulted from this activity. There are currently no active mining, oil and gas leasing, or mineral claims in this unit. The area is considered to have no oil/gas potential, and low mineral potential, except in a small area along the east boundary, where a moderate mineral potential is noted in the vicinity of several cow camps; however, this area has a recorded withdrawal from mineral entry.
<b>Heritage Resources</b>	There is a ceremonial site and a prehistoric/historic travel route near the unit. The presence of a nearby prehistoric/historic travel corridor indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	<p>An unnamed fire burned approximately 165 acres of sagebrush/grassland community in the southwest corner of the unit in 1940.</p> <p>Fire regimes vary with vegetation composition and elevation, with one third of the unit in the Douglas fir, limber pine and juniper regime group. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The lodgepole pine habitat typically experiences a high-intensity burn regime that results in stand replacement. The sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants.</p>
<b>Other</b>	The Crow Indian Reservation is adjacent to area in Montana. Bureau of Land Management and private lands are along the west boundary. There is a withdrawal along the east boundary. A right-of-way exists on a road outside the west boundary of the unit. <sup>6</sup>

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<sup>6</sup> Encumbrance recorded in T 58N, R 92W, Sec 24, Sec 25, S ½ S ½ S ½ S ½ Sec 13

Table C-65. Management area acres for Alternative A, Cookstove Basin Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	3,944
3.5 Plant and Wildlife Habitat Management	751
5.11 Forest Vegetation Emphasis	553
5.12 Rangeland Vegetation Emphasis	1,407

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude ..... high

The area's remote location and distance from major Forest arteries provides good opportunities for solitude.

Natural and free from disturbance ..... med

The area is largely natural and undeveloped. There is some disturbance created by the grazing of domestic livestock and associated range improvements. The presence of a four-wheel-drive road into the core of the area reduces the rating to moderate.

Challenge ..... med

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... med

Hiking ..... high

Backpacking ..... med

Hunting ..... high

Skiing..... low

Mountain climbing..... low

#### Environmental and special features

Scientific, educational, or historic values ..... med

Variety and abundance of wildlife..... high

Scenic and special features ..... low

Trout Creek harbors a population of genetically pure Yellowstone cutthroat trout.

## ROADLESS AREA MANAGEMENT

Manageability-the extent that boundaries:

Are recognizable ..... high  
Conform with terrain ..... med  
Are manageable ..... med  
Constitute a barrier to prohibited use ..... med

This area has a moderate level of manageability due to federal and private land ownership outside its boundaries, and Cookstove Basin Road (FR 103) provides access into the core of the unit. The small size of the area and limited distance from perimeter to core are factors affecting manageability.

**Conclusion:** The remote location of this area allows for opportunities for solitude and primitive recreation experiences. It will be considered **Capable** for wilderness and will be further evaluated for availability and need.

### Availability Determination

1. Is the area vitally needed for increased water protection and storage? No
2. Would wilderness designation seriously restrict important wildlife management? No
3. Does the area have high strategic or economic mineral development potential? No
4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? Yes  
A road extends into the center of the area, allowing motorized use into the core
6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** Based on the small size of the area and the motorized access into the core, this area has been determined to be **Not Available** for wilderness.

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Cookstove Basin roadless area (6,655 acres).

Table C-66. Management area prescriptions by alternative for the Cookstove Basin Roadless Area.

Mgmt	Alt A	Alt B	Alt C	Alt D	Alt E
1.32	3,944		6,010		2,810
3.5	751		645		
5.11	553				

# ROADLESS AREA MANAGEMENT

<b>Mgmt</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
5.12	1,407	6,655		6,655	
5.4					3,845

The following table summarizes the Cookstove Basin roadless area acreage by alternative for the groups shown in Table C-5.

Table C-67. Cookstove Basin Roadless Area acres retaining and not retaining roadless character.

	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Acres Retaining Roadless Character	3,944		6,010		2,810
Acres Not Retaining Roadless Character	2,711	6,655	645	6,655	3,845

## Roadless Area BH046 – Pete’s Hole

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<b>Acres</b>	19,065
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02027 Horse Creek Mesa Roadless Area (79,620 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 18 air miles northeast of Lovell, Wyoming in Big Horn County. Primary access is provided by US Highway 14A, Bald Mountain Road (FR 122), Bailey Creek Road (FR 126), Hunt Mountain Road (FR 10), Dugway Road (FR 213), Mayland Road (FR 131), and Pete’s Hole Road (FR 132). Several motorized trails provide access via Pete’s Hole Trail (FT 104), Beaver Creek Mesa Trail (FT 151), North Beaver Trail (FT 149), East Beaver Trail (FT 420), and Hudson Creek Trail (FT 419).
<b>Surroundings</b>	The area is bounded on the north by US Highway 14A, and along the south by Dugway Road (FR 213). The National Forest boundary defines the west boundary and various roads are located along the east boundary. Bureau of Land Management and private lands can be found outside the Forest boundary to the west.
<b>Physical and biological description</b>	<p>Elevations range from 6,000 feet where North Beaver Creek leaves the Forest boundary, to 10,162 feet at the top of Hudson Point along Hunt Mountain. The area contains steep canyons and rocky ridges dominated by forested areas of Douglas fir on steep, dry canyon slopes. Engelmann spruce forests are found in the higher elevations on north and east aspects. The forested areas are interspersed with open parks and ridges consisting of big sagebrush and Idaho fescue on the upland areas. There is a gradual drop off in elevation westward from the main ridge of the Big Horn Mountains to the Forest boundary, where the drop off into the Big Horn basin is precipitous. Annual precipitation ranges from 23 inches along the far west slopes, to 33 inches in the subalpine zone. The precipitation occurs primarily as snow between the months of April and October in the higher elevations.</p> <p>Landtype associations are predominantly sedimentary mountain slopes and breaklands, with some colluvial landslide deposits derived from interbedded shale and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other factors limiting development and revegetation include steep slopes and the high rock fragment content of the limestone soils.</p> <p>There is a band of granitic breaklands and steep mountain slopes along the east boundary of the unit. Soil associations in this region generally exhibit moderately deep, well-drained profiles formed in residuum derived from granite. Steep slopes of granitic talus limit development and revegetation.</p>

<b>Features</b>	The rugged terrain and steep canyons above the Big Horn basin are the dominant features of the landscape. Pete's Hole is a basin near the confluence of Crystal and Roane Creeks, where the drainage drops sharply off the Forest into the Big Horn basin. Hunt Mountain, Medicine Mountain, and Bald Mountain are high points surrounding the roadless area. North and South Beaver Creeks contain genetically pure Yellowstone cutthroat trout.
<b>Resource Uses</b>	
<b>Vegetation</b>	Vegetation is comprised of 41% Douglas fir, 19% spruce-fir, 15% sagebrush, 8% forb/grass, 4% lodgepole, 3% juniper, and the remainder non-vegetated. There are several areas that have been treated with prescribed fire scattered throughout the unit. Sagebrush stands were treated with prescribed fire to increase production and diversity of native grasses and forbs, and improve forage for livestock and wildlife. Some of the uplands and riparian areas show impacts from grazing and exotic species are present. There are no known occurrences of Forest Service sensitive species in the unit.
<b>Recreation</b>	The area receives very light recreational use in the form of hiking, horseback riding. Several hiking trails traverse the area, but use is generally light in the summer and increases with hunting season in the fall. Some of the trails are open to motorized recreation, but the rugged terrain limits the practical use of ATVs in the area. Big game hunting pressure in the fall is moderate to heavy, with hunting activity concentrated along the Hunt Mountain Road (FR 10) and off of spur roads that originate from US 14A. Groomed snowmobile trails, LL, M, and H follow US Highway 14A, and portions of the roadless area have become "play areas" for snowmobilers to experience off trail-terrain and the deep powder found in area bowls. An informal snowmobile loop (ungroomed) is in the Beaver Creek area. Special use permits are authorized for fall hunting in the area. The ROS rating is almost entirely Semi-primitive Non-motorized.
<b>Wildlife</b>	Big game species within the area include elk, deer, mountain lion, and black bear. Various birds, raptors, small mammals, and furbearers are found in the area including yellow-bellied marmot, beaver, grouse, and golden eagle. There are sage grouse leks in the Pete's Hole and Beaver Creek areas. The majority of habitat is used by deer and elk for summer range, while crucial winter range lies along the Forest boundary in the lower elevations. Elk calving and nursery areas can be found west of Hunt Mountain and south of Little Bald Mountain. Populations of Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouvieri</i> ), a Forest sensitive species, have been sampled in North and South Beaver Creeks, and subsequent DNA testing revealed the sample to be genetically pure.
<b>Range</b>	The area is used for grazing livestock and is administered under several allotments. Typical range improvements such as fences, water developments, and cow camps are located within and adjacent to the area.

## ROADLESS AREA MANAGEMENT

<b>Water</b>	The roadless area is contained within several watersheds: Crystal Creek, Lower Beaver Creek, Beaver Creek, and Dry Bear Creek. Major drainage features of the area are North and South Beaver Creek, Crystal Creek, Cedar Creek, and Whaley Creek. The streams are in a natural free-flowing state and are not located within a municipal watershed.
<b>Minerals</b>	There area is considered to have no oil/gas potential and low mineral potential. There are several withdrawals from mineral entry along the northeast boundary of the unit. Nearby Bald Mountain (to the east of the roadless area) was the site of historic placer mining in the 1800s.
<b>Heritage resources</b>	The Bald Mountain area (to the east of the roadless area) was the site of historic placer mining in the 1800s. There are several ceremonial sites and travel routes adjacent to the unit. The presence of a nearby prehistoric/historic travel corridors indicates high potential for other eligible heritage resources in the area.
<b>Fire</b>	<p>There are no wildfires on record for this area.</p> <p>Fire regimes vary with vegetation composition and elevation, with the majority the area in the Douglas fir, limber pine and juniper habitat type. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The areas of sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants. There are scattered stands of Engelmann spruce-subalpine fir habitat type along the east boundary of the area. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning.</p>
<b>Other</b>	Bureau of Land Management and private lands are located along the west boundary and provide several access points into the area.

Table C-68. Management area acres for Alternative A, Pete's Hole Roadless Area.

<b>Alternative A Management Area</b>	<b>Acres</b>
3.5 Plant and Wildlife Habitat Management	6,203
5.11 Forest Vegetation Emphasis	1,879
5.12 Rangeland Vegetation Emphasis	8,154
5.41 Deer and Elk Winter Range	2,829

### **Capability Assessment**

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high



Opportunities for solitude are excellent, with some seasonal impacts occurring during fall hunting and winter snowmobile use in the area.

Natural and free from disturbance ..... high

The area is largely natural and undeveloped. There is some disturbance created by off-trail snowmobiling during the winter season. The sights and sounds of US Highway 14 are evident near area boundaries, but influences not noticeable in the remote core.

Challenge ..... high

The area offers a high degree of challenge due to rugged terrain, with canyons and large changes in elevation.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking ..... med

Hunting ..... high

Cross-county skiing ..... low

Mountain climbing..... low

#### Environmental and special features

Scientific, educational, or historic values ..... med

Variety and abundance of wildlife..... high

Scenic and special features ..... high

The area offers a moderate level of opportunity for outdoor education and environmental study. The scenic features are rated high, with extensive views, sedimentary geology, and diverse plant communities. North and South Beaver Creeks contain genetically pure Yellowstone cutthroat trout.

#### Manageability-the extent that boundaries:

Are recognizable..... high

Conform with terrain ..... high

Are manageable ..... med

Constitute a barrier to prohibited use..... high

The boundaries are very manageable. Bureau of Land Management and private lands are located along the west boundary and provide several access points into the area.

**Conclusion:** The high opportunities for solitude, the manageability, and the large size of the area combine to make the area **Capable** for wilderness. It will be further evaluated for availability and need.

### **Availability Determination**

- |   |    |
|---|----|
| 1. Is the area vitally needed for increased water protection and storage?   | No |
| 2. Would wilderness designation seriously restrict important wildlife management?   | No |
| 3. Does the area have high strategic or economic mineral development potential?   | No |
| 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? | No |
| 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports?     | No |
| 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation?                              | No |

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

### **Need Determination**

**Nearby Wilderness:** The roadless area lies approximately 18 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness.

**Wildlife Needs:** The area harbors genetically pure Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), a Forest sensitive species, in North and South Beaver Creeks. No species have been identified in the Pete's Hole area that require a wilderness environment for survival.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. Pete's Hole Roadless Area consists of sedimentary breaklands and mountain slopes with lower elevation ecosystems including Douglas fir, sagebrush, and mountain shrub communities. These communities are uncommon in nearby Wyoming wilderness areas.

The following table displays percentage of the cover types represented in this roadless area.

Table C-69. Percent of cover types in the Pete's Hole Roadless Area.

Cover Type	Acres	Percent
Forb	832	4
Grass	845	4
Rock	680	3
Shrub	758	4
Sagebrush	2,782	15
Willow	168	1
Aspen	129	1
Cottonwood/willow	20	-
Douglas fir	7,898	41
Limber pine	96	0
Lodgepole pine	757	4
Ponderosa pine		
Pinyon-juniper	504	3
Spruce-fir	3,591	19

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-70. Limited representation cover types in the Pete's Hole Roadless Area.

Cover Type	Acres in Pete's Hole Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine		
Douglas fir	7,898	14%
Lodgepole pine	757	1%
Big sagebrush	2,782	41%
Pinyon-juniper	504	37%
Aspen	129	5%
Grass	845	8%
Limber pine	96	1%

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Pete's Hole roadless area (19,065 acres).

Table C-71. Management area prescriptions by alternative for the Pete's Hole Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32					
1.33			17,444		
3.31		14,952	939		
3.5	6,203				
4.2		2,038	376	1,324	
5.11	1,879				1,780
5.12	8,154			16,624	
5.13					
5.4					13,806
5.41	2,829	2,075	306	1,117	2,415
5.5					1,064

The following table summarizes the Pete's Hole roadless area acreage by alternative for the groups shown in Table C-5.

Table C-72. Pete's Hole Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character			17,444		
Acres Not Retaining Roadless Character	19,065	19,065	1,621	19,065	19,065

## Roadless Area BH047 – Cedar Creek

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<b>Acres</b>	11,115
<b>Ranger District</b>	Medicine Wheel/Paintrock
<b>History</b>	This area was originally part of the #02027 Horse Creek Mesa Roadless Area (79,620 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located approximately 6 miles east of Shell, Wyoming in Big Horn County. Motorized access is provided by US Highway 14, Copmans Tomb Road (FR 216), Willey Creek Road (FR 217), Long Park Road (FR 209), and Sunlight Mesa Road (FR 207). Non-motorized access is provided by the Beef Trail (FT 056), the Cedar Creek Trail (FT 055), and the Grouse Creek Trail (FT 381).
<b>Surroundings</b>	The area is located on the north side of Shell Canyon. Topographic features and roads delineate the north boundary, the Forest boundary forms the west boundary, and the south boundary is defined by Shell Creek, Fender Creek, and the canyon walls along Copmans Tomb and Cedar Mountain. Bureau of Land Management lands are located adjacent the Forest boundary. Shell Creek and US Highway 14 lie to the south of the area. Shell Research Natural Area is located on the south side of Shell Canyon.
<b>Physical and biological description</b>	<p>Elevations range from 5,200 feet near the Forest boundary, to 9,813 feet at the top of Cedar Mountain. The area is located along US 14A Scenic Byway and features spectacular limestone canyons, narrow gorges, and unique, colorful rock formations. Situated on the western flank of the Bighorn range, this roadless area highlights steep-sided canyon walls that expose the sedimentary strata of Shell Canyon. Vegetation varies from juniper and mountain mahogany inhabiting the lower elevations, to a mid-elevation dominance of Douglas Fir forests in the area's midsection, to cooler sites of Engelmann spruce/subalpine fir stands in the northeast corner of the area. Cottonwoods and willows can be found along the creek bottoms in the lower elevations. The forested areas are interspersed with open parks and ridges consisting of big sagebrush, Idaho fescue, and bluebunch wheatgrass on the uplands. The area is drained by a series of small creeks that empty into Shell Creek. Annual precipitation ranges from 17.5 inches at the Forest boundary to 33 inches at the higher elevations. Most of the precipitation occurs as rain from April through September.</p> <p>Landtype associations are predominantly sedimentary breaklands. There is an area between the rock formations of Elephant's Head and Copmans Tomb of colluvial landslide deposits derived from interbedded shale and limestone. Soil erodibility ranges from low to high, productivity is good, and revegetation potential is generally poor. The shale soils are particularly erosive and prone to landslides. Other limiting factors include steep slopes and the high rock fragment content of the limestone soils.</p>

## ROADLESS AREA MANAGEMENT

<b>Features</b>	The unique sedimentary geology of the Shell Canyon area is the dominant feature of this unit. Notable rock formations are Elephant's Head and Copmans Tomb. Cedar Creek winds through the core of the area through Douglas fir and Engelmann spruce forests, and harbors a population of genetically pure Yellowstone cutthroat trout.
<b>Resource Uses</b>	
<b>Vegetation</b>	Vegetation is comprised of 46% Douglas fir, 15% spruce-fir, 13% grass, 8% juniper, 7% shrub, and the remainder non-vegetated. There are several areas that have been treated with prescribed fire scattered throughout the unit. Sagebrush and juniper stands were treated with prescribed fire to increase production and diversity of native grasses and forbs, improve forage for livestock and wildlife, and reduce meadow encroachment. Exotic species are present, particularly along the Beef Trail (FT 056). There are concentrated areas of mortality in the Douglas fir forests from Douglas fir beetle infestations. There are no known occurrences of Forest Service sensitive species in the unit.
<b>Recreation</b>	The area receives light recreational use in the form of hiking, horseback riding, photography, and fishing. There is light to moderate use of the area in the fall for big game hunting. There are three non-motorized Forest trails in the interior of the area. The Cedar Creek Trail (FT 055) begins at the end of Cedar Creek Road (FR 264) and terminates near the upper end of Cedar Creek. The Grouse Creek Trail (FT 381) begins approximately one-half mile east of the confluence of Grouse and Cedar Creeks, and traverses north to Grouse Creek Road (FR 205). The Beef Trail (FT 056) is primarily used as a livestock driveway. There are no snowmobile or cross country ski trails in the area. Several special use permit holders are authorized for fall hunting in the area. The ROS rating is largely Semi-primitive Non-motorized, with small areas of Semi-primitive Motorized and Roaded Natural.
<b>Wildlife</b>	Big game species within the area include elk, deer, mountain lion, black bear, and bighorn sheep. Small game species include sage grouse and blue grouse. Various birds, raptors, small mammals, and furbearers are found in the area including yellow-bellied marmot, beaver, and golden eagle. The river corridors provide important habitat for many terrestrial and aquatic wildlife species. The riparian areas serve as feeding and nesting sites for birds and canyon walls offer nesting habitat for peregrine falcons. The area includes spring calving, summer, and fall habitat for deer and elk, with the western one-third of the area providing crucial winter range and some year-long use in suitable habitat near the Forest boundary. During the period of 1992-1994, 111 bighorn sheep ( <i>Ovis canadensis canadensis</i> ) were transplanted to Shell Canyon by the Wyoming Game and Fish Department. The herd has experienced a high mortality rate, and only a small population of approximately 20-30 sheep persist in the Shell Canyon area. They are the only bighorn sheep known to occur on the Forest.

<b>Wildlife</b>	<p>Genetically pure Yellowstone cutthroat trout (<i>Oncorhynchus clarki bouvieri</i>), a Forest sensitive species have been found in Cedar Creek, though it is likely that the origin of this population was planted. Cedar Creek and its Yellowstone cutthroat trout populations have been identified in the WYNDD as a Biological Area - areas that contain important concentrations of rare taxa and their representative vegetation communities. The Cedar Creek biological area is ranked by WYNDD as B3: high significance area.</p> <p>The east half of the roadless area falls within the North Tongue/Cedar lynx habitat unit. The Canada lynx (<i>Lynx canadensis</i>) is listed as Threatened by the US Fish and Wildlife Service under the Endangered Species Act.</p>
<b>Range</b>	<p>The area is used for grazing livestock and is administered under several allotments. Grouse Creek, Wiley Sundown, Sunlight Mesa and Prospect Creek Cattle and Horse Allotments constitute part of this roadless area. Typical range improvements such as fences, water developments, and cow camps are located within and adjacent to the area. The Beef Trail (FT 056) is a historic livestock driveway that parallels US 14.</p>
<b>Water</b>	<p>The roadless area is contained within the Shell Cr at Shell Canyon Watershed, and the Shell Creek at Shell Watershed. Cedar Creek, Grouse Creek, Willey Creek, and Cottonwood Creek are the principal streams in the area. Shell Creek and its tributaries are part of the Shell Municipal Watershed that supplies drinking water to the community of Shell, Wyoming. Under some Forest plan alternatives, an eight mile length of Cedar Creek is recommended for Wild designation under the Wild and Scenic Rivers Act of 1968. If the alternative is chosen, a site-specific NEPA decision process will be conducted for formal recommendation to Congress.</p>
<b>Minerals</b>	<p>There are currently no active mining, oil and gas leasing, or mineral claims in this unit. There are no withdrawals and the area is considered to have no oil/gas potential and low mineral potential.</p>
<b>Heritage resources</b>	<p>There are no known heritage resources in the area. There is potential for both historic and prehistoric sites in this area.</p>
<b>Fire</b>	<p>There are two small fires on record for the area that occurred east of Long Park.</p> <p>Fire regimes vary with vegetation composition and elevation, with the central region of the area in the Douglas fir, limber pine and juniper habitat type. Fires in this regime group typically burn with mixed severity, with some areas burning in the understory and some transition to the crowns of trees for short durations. This regime group has the potential for large fires, particularly if strong winds are present. The areas of sagebrush/grassland areas of the unit are subject to high severity fires that spread quickly and kill vegetation, but do not harm the root system and stimulate regeneration of the plants. There is an area of Engelmann spruce-subalpine fir habitat type along the east boundary of the area. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning.</p>

## ROADLESS AREA MANAGEMENT

**Other** Bureau of Land Management lands are located along the west boundary.

Table C-73. Management area acres for Alternative A, Cedar Creek Roadless Area.

Alternative A Management Area	Acres
3.5 Plant and Wildlife Habitat Management	3,163
4.2 Scenery	91
5.11 Forest Vegetation Emphasis	453
5.12 Rangeland Vegetation Emphasis	3,591
5.41 Deer and Elk Winter Range	3,817

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... high

The area is not heavily used and offers high opportunities for solitude.

Natural and free from disturbance ..... med

The area is largely natural and undeveloped. There is some disturbance created by the grazing of domestic livestock and the presence of range improvements and exotic species. The sights and sounds of US Highway 14 are noticeable near area boundaries.

Challenge ..... high

The area offers a high degree of challenge due to rugged terrain, with steep canyons and large changes in elevation.

#### Primitive and unconfined recreation

Camping..... high

Fishing ..... high

Hiking ..... high

Backpacking..... high

Hunting ..... high

Cross-country skiing..... low

Mountain climbing..... low

#### Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife..... high



Scenic and special features ..... high

The area offers a high level of opportunity for outdoor education and environmental study, based on its varied terrain and diverse plant and animal communities. The scenic features are rated high, with extensive views, sedimentary geology, and diverse plant communities. Cedar Creek contains genetically pure Yellowstone cutthroat trout. Under some Forest plan alternatives, a length of Cedar Creek is recommended for Wild designation under the Wild and Scenic Rivers Act of 1968.

Manageability-the extent that boundaries:

- Are recognizable ..... med
- Conform with terrain ..... med
- Are manageable ..... high
- Constitute a barrier to prohibited use..... med

The boundaries are very manageable due to the rugged terrain surrounding most of the area boundary. Bureau of Land Management lands are located along the west side.

**Conclusion:** The high opportunities for solitude coupled with the unique scientific and scenic features, combine to make the area **Capable** for wilderness. It will be further evaluated for availability and need.

**Availability Determination**

- 1. Is the area vitally needed for increased water protection and storage? No
- 2. Would wilderness designation seriously restrict important wildlife management? No
- 3. Does the area have high strategic or economic mineral development potential? No
- 4. Are there unique or outstanding natural phenomena that require public access and development that would be inconsistent with wilderness designation? No
- 5. Is the land needed to meet clearly documented resource demands such as timber, minerals, or developed recreation sites, including winter sports? No
- 6. Are there existing contractual or other significant obligations on the area not in consort with wilderness designation? No

**Conclusion:** Based on the resource potentials and management considerations described above, this area has been determined to be **Available** for wilderness.

**Need Determination**

**Nearby Wilderness:** The roadless area lies approximately 10 miles from the Cloud Peak Wilderness. An additional 4,235,980 acres of designated wilderness occurs within a 250 mile radius of the Cloud Peak Wilderness.

**Wildlife Needs:** Genetically pure Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), a Forest sensitive species, have been found in Cedar Creek. A small population of approximately 20-30 bighorn sheep (*Ovis canadensis canadensis*) are found in the Shell Canyon area. No species have been identified in the Cedar Creek area that require a wilderness environment for survival.

**Areas of Biological Interest:** Cedar Creek and its Yellowstone cutthroat trout populations have been identified in the WYNDD as a Biological Area - areas that contain important concentrations of rare taxa and their representative vegetation communities. This biological area is ranked by WYNDD as B3: high significance area.

**Cover Type:** In comparison of the occurrence of various ecosystem types in nearby wilderness areas, the alpine and subalpine ecosystem types are well represented. Cedar Creek Roadless Area consists of sedimentary breaklands and mountain slopes that form steep-sided canyons and expose sedimentary strata on the western slope of the Bighorns. Juniper and Douglas fir communities are found in this lower elevation ecosystem, which is not well represented in the Wyoming wilderness system.

The following table displays percentage of the cover types represented in this roadless area.

Table C-74. Percent of cover types in the Cedar Creek Roadless Area.

Cover Type	Acres	Percent
Forb	2	-
Grass	1,450	13
Rock	737	7
Shrub	789	7
Sagebrush	161	1
Willow	59	1
Aspen	43	-
Cottonwood/willow		
Douglas fir	5,163	46
Limber pine	99	1
Lodgepole pine	53	1
Ponderosa pine		
Pinyon-juniper	872	8
Spruce-fir	1,687	15

**Limited Representation Cover Types:** Certain cover types identified in Table C-3 have limited representation in the Rocky Mountain Region wilderness system. The following table shows how this roadless area contributes to the acreages in Table C-3.

Table C-75. Limited representation cover types in the Cedar Creek Roadless Area.

Cover Type	Acres in Cedar Creek Roadless Area	Percent of Total Bighorn NF Capable/Available Roadless
Ponderosa pine		
Douglas fir	5,163	9%
Lodgepole pine	53	-
Big sagebrush	161	2%
Pinyon-juniper	872	63%
Aspen	43	2%
Grass	1,450	1%
Limber pine	99	1%

### ***Environmental Consequences***

The following table shows the management prescription allocations by alternative for the Cedar Creek roadless area (11,115 acres).

Table C-76. Management area prescriptions by alternative for the Cedar Creek Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32			7,767		
3.31		7,862	1,892		
3.5	3,163				
4.2	91	871	871	969	
4.3	453				4,880
5.11	3,591			7,774	
5.12					21
5.13					1,287
5.41	3,817	2,383	585	2,372	4,836
5.5					91

## ROADLESS AREA MANAGEMENT

The following table summarizes the Cedar Creek roadless area acreage by alternative for the groups shown in Table C-5.

Table C-77. Cedar Creek Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character			7,767		
Acres Not Retaining Roadless Character	11,115	11,115	3,348	11,115	11,115

## Roadless Area BH048 – Cloud Peak Contiguous South

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<b>Acres</b>	18,734
<b>Ranger District</b>	Powder River
<b>History</b>	This area was originally part of the #02031 Cloud Peak Contiguous Roadless Area (151,410 acres) as identified in RARE II analysis.
<b>Location</b>	The area is located adjacent to the south end of the Cloud Peak Wilderness in Big Horn and Johnson Counties, Wyoming. Motorized access to the area is available through US Highway 16, the West Tensleep Road (FR 27), Lake Creek Road (FR 431), Baby Wagon Road (FR 419), and the Upper North Fork Road (FR 447). Numerous trails access the Cloud Peak Wilderness from this roadless area: Misty Moon Trail (FT 063), Roy Loudan Trail (FT 065), and Virginia Creek Trail (FT 098).
<b>Surroundings</b>	This roadless area is contiguous to the south end of the Cloud Peak Wilderness. It is bounded on the south by US Highway 16 (Cloud Peak Skyway) and Meadowlark Lake, on the west by Bald Ridge and West Tensleep Lake, and on the east by Sheep Mountain. The Cloud Peak Wilderness forms the north boundary.
<b>Physical and biological description</b>	<p>Area elevations range from 8,600 feet near Bear Lake to 11,722 feet atop Loaf Mountain. The area is characterized by subalpine forests bordered by the granitic mountain peaks of the Cloud Peak Wilderness. Vegetation is predominantly forested, with a mixture of lodgepole pine, Engelmann spruce, and subalpine fir, and an understory of grouse whortleberry. Parks and large meadows occur throughout the region, featuring Idaho fescue, big sagebrush, silky lupine, tufted hairgrass, and alpine timothy. In flood plains and alluvial depressions, willows and rushes are present in the wetter areas. The area straddles the Big Horn Mountain divide, with the majority of the streams draining into the Nowood River via Tensleep Creek, while the watershed along the east boundary of the unit drains into the Powder River. Annual precipitation ranges from 28 to 33 inches, and falls mainly as snow during October through May.</p> <p>Landtype associations consist of granitic mountain slopes and areas of glacial moraines and tertiary terraces. Near Loaf Mountain at an elevation approaching 12,000 feet, glacial cirquelands of periglacial rubble and talus distinguish the harsh alpine environment. The soils in the area have formed in materials derived from granite, gneiss, and glacial till. Surface boulders are common on glacial soils and at higher elevations. Soil erodibility and productivity are generally low with these soils. Factors limiting revegetation and development include the high rock fragment content of the soils, the surface boulders on glacial soils, and the harsh climate at higher elevations.</p>

## ROADLESS AREA MANAGEMENT

**Features** Views of the granite peaks in the Cloud Peak Wilderness are important visual features in the area. Cool, subalpine forests of lodgepole pine, Engelmann spruce, and subalpine fir are found on mountain slopes and ridges, with a variety of marshes, lakes and glacial moraines in riparian zones. Quaternary glacial deposits of sand, gravel moraines, and boulders are some of the unique geological features of the area.

### Resource Uses

**Vegetation** Vegetation composition, structure, and function are within the historic range of variability. Vegetation is comprised of 35% spruce-fir, 30% lodgepole pine, 19% grass/forb, and the remainder is non-vegetated. Large lodgepole pine old-growth, in spruce/fir habitat type, is found in the vicinity of West Tensleep Lake, where mature pines, large snags and multiple canopies form late successional habitat. The alpine wetlands and granite talus fields support diverse willow, forb, and graminoid communities. The roadless area contains part of the Virginia Creek and Powder River Pass-Hazelton Peaks “Biological Areas” - areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. The two biological areas are ranked by WYNDD as B3: high significance areas. Lake McLain is a potential Research Natural Area that overlaps the Virginia Creek Biological Area. There are no known occurrences of sensitive species in the area.

**Recreation** The majority of recreational use involves hiking, horseback riding, fishing, hunting, cross country skiing, snowshoeing, and snowmobiling activities. Numerous trails are scattered throughout the area, many of which access the Cloud Peak Wilderness. The most popular trailhead on the Forest is West Tensleep – a major embarkment spot for wilderness destinations such as Lake Helen, Misty Moon Lake, and Cloud Peak. The Mirror Lake and Lost Twin Lakes Trail (FT 065) also departs from the West Tensleep trailhead, which features a large parking area, facilities for horse users, and a developed campground adjacent to the trailhead. Another popular recreation site is East Tensleep Lake, accessed by a road originating from Sitting Bull Campground. A portion of the Highline Trail (FT 067) west of East Tensleep Lake is open to motorized use. The other designated trails are closed to motorized use, except for snowmobiles operating on snow. These trails access the Cloud Peak Wilderness, and there are occasional violations that occur during the winter months, with snowmobile trespass into the wilderness. Anglers frequent West, Middle and East Tensleep Creeks, and East Tensleep Lake for cutthroat, brook, brown, and rainbow trout.

<b>Recreation</b>	Snowmobiling is popular along groomed trails along the interior and perimeter of the area. The West Tensleep Road and trails north of Meadowlark Lake receive very heavy use during winter months, where travel to and from area lodges (Deer Haven and Meadowlark) constitutes popular travel routes. State system snowmobile trails “H” and “N” traverse through the east half of the roadless area and are popular for snowmobilers seeking trail rides and off-trail play areas. There are no groomed cross country ski trails within the roadless area, but a small number of backcountry skiers utilize the Baby Wagon drainage and access the Cloud Peak Wilderness via the Misty Moon Trail (FT 063). There is moderate big game hunting pressure in the area, particularly near roads. Special use permits are authorized for fall hunting and summer horseback rides. There are numerous developed recreation sites including lodges, a downhill ski area, a cross country ski area, recreation residences, campgrounds, and picnic areas outside the roadless area along US Highway 16 and the West Tensleep Road (FR 27). Approximately 70% of the area is rated for ROS as Semi-primitive Non-motorized, 20% Semi-primitive as Motorized, and 10% as Roaded Natural.
<b>Wildlife</b>	Large wildlife species found in the area include elk, mule deer, black bear, moose, and mountain lion. The area is also inhabited by small animals and birds including marmots, pikas, beaver, ground squirrels, and grouse. The area provides summer habitat for deer and elk. A number of streams support fishable populations of brook, brown, and rainbow trout. The pine marten ( <i>Martes americana</i> ), a Forest sensitive species, has been observed in the West Tensleep Lake area. Another Forest sensitive species, the Northern goshawk, ( <i>Accipiter gentilis</i> ), has been documented south of East Tensleep Lake.
<b>Range</b>	The area is contained within numerous sheep allotments including Willow, Upper Meadows, McLain, Baby Wagon, and Hazelton sheep and goat allotments. Most of the grazing is concentrated in the east half of the area. There is a stock driveway/trail from Upper Meadows into the Baby Wagon drainage.
<b>Water</b>	The roadless area is contained within the West Tensleep Creek, East Tensleep Creek, Leigh Creek, Upper Canyon, North Fork Crazy Woman, and South Clear Creek Watersheds. Streams are in a natural free-flowing state and are not located within a municipal watershed. Principal features in the area are East Tensleep Lake, Virginia Creek, Babywagon Creek, Lake Creek, and the East, West, and Middle Forks of Tensleep Creek.
<b>Minerals</b>	There are no active mineral claims or withdrawals, and the area is considered to have no mineral/oil/gas potential.
<b>Heritage resources</b>	There are ceremonial sites and a prehistoric/historic travel route adjacent to the unit. The presence of a heritage travel corridor near the boundary of the roadless area indicates high potential for other eligible heritage resources in the area.

## ROADLESS AREA MANAGEMENT

- Fire** The Duck Creek Burn (1943) is the only wildfire on record for the area and is located in the northeast corner. The Meadowlark Burn consumed 1,800 acres in 1975, outside the area boundary north of Meadowlark Lake.
- Fire regimes vary with vegetation composition and elevation, with the majority of the area in the Engelmann spruce-subalpine fir habitat type. This group has a historical fire interval of 100+ years and experiences stand replacement severity burning. The other major fire regime in the area is in the lodgepole pine habitat type. Fires in this regime group typically experience a high-intensity burn regime that results in stand replacement.
- Other** The roadless area contains the Virginia Creek and Powder River Pass-Hazelton Peaks “Biological Areas” - areas designated by the WYNDD for important concentrations of rare taxa and their representative vegetation communities. Lake McLain is a proposed Research Natural Area that overlaps the Virginia Creek Biological Area. Cloud Peak Biological Area is adjacent to the north, and follows the approximate wilderness boundary.

Table C-82. Management area acres for Alternative A, Cloud Peak Contiguous South Roadless Area.

Alternative A Management Area	Acres
1.32 Backcountry Recreation Non-Motorized Summer; Limited Winter Motorized	5,476
3.5 Plant and Wildlife Habitat Management	6,053
4.2 Scenery	519
5.11 Forest Vegetation Emphasis	399
5.12 Rangeland Vegetation Emphasis	4,448
5.13 Forest Products	1,839

### Capability Assessment

(All ratings are high, medium, low, or n/a – not applicable)

#### Primary Elements

Opportunity for solitude..... med

Solitude opportunities are rated high in the east half of the area, while the west half receives an increased volume of use concentrated along trails. The north side of the area is bordered by the Cloud Peak Wilderness.

Natural and free from disturbance ..... med

The area possesses a high degree of naturalness. Use of roads along area boundaries and snowmobile trails located within the east half of the area causes disturbance.



Challenge ..... med

The area offers a moderate degree of challenge.

#### Primitive and unconfined recreation

Camping ..... high

Fishing ..... high

Hiking ..... high

Backpacking ..... high

Hunting ..... high

Cross-country skiing ..... high

Mountain climbing ..... high

#### Environmental and special features

Scientific, educational, or historic values ..... high

Variety and abundance of wildlife ..... high

Scenic and special features ..... high

This area offers a high level of opportunity for outdoor education and environmental study. There are opportunities to study subalpine and alpine ecosystems, glacier-affected land forms, and rare plants in the Virginia Creek and Powder River Pass-Hazelton Peaks Biological Areas. This roadless area contains the potential Lake McLain Research Natural Area. The scenic features are rated high, with glacial streams, high elevations wetlands, and views of the granite peaks of the Cloud Peak Wilderness.

#### Manageability-the extent that boundaries:

Are recognizable ..... med

Conform with terrain ..... med

Are manageable ..... med

Constitute a barrier to prohibited use ..... med

Manageability of the area is considered moderate. A narrow neck is formed near East Tensleep Lake to exclude a road and ATV trail originating from Sitting Bull Campground. This roadless area wraps around the south end of the Cloud Peak Wilderness.

**Conclusion:** The area's low level of manageability and the disturbance from the sights and sounds of nearby roads detracts from the natural feel of the area. It has been determined to be **Not Capable** for wilderness.

### Environmental Consequences

The following table shows the management prescription allocations by alternative for the Cloud Peak Contiguous South roadless area (18,734 acres).

Table C-78. Management area prescriptions by alternative for the Cloud Peak Contiguous South Roadless Area.

Mgmt Rx	Alt A	Alt B	Alt C	Alt D	Alt E
1.32	5,474	7,845	7,765	6,695	4,495
1.33		4,100	4,098		118
2.2		2,980	2,980	2,980	
3.31		1,458	1,461		
3.5	6,055				
4.2	519	1,901	1,901	1,925	
4.3				4,160	
5.11	399	450	529	2,895	7,405
5.12	4,448				
5.13	1,839			79	4,815
5.5					1,901

The following table summarizes the Cloud Peak Contiguous South roadless area acreage by alternative for the groups shown in Table C-5.

Table C-79. Cloud Peak Contiguous South Roadless Area acres retaining and not retaining roadless character.

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres Retaining Roadless Character	5,476	14,921	14,843	9,672	4,612
Acres Not Retaining Roadless Character	13,258	3,813	3,891	9,062	14,122